



FRIDAY, MARCH 24, 1876.

Tank Locomotive for the London, Chatham & Dover Railway.

We are indebted to *The Engineer* for the engraving herewith and for the material for the following description. That paper, in speaking of these engines, says:

"The traffic of the London, Chatham & Dover Railway daily grows heavier, the increase being principally, but not exclusively, confined to the Metropolitan Extension and the Crystal Palace sections. For some time back the company have been short of engine power, especially for working the heavy section of line from Snow-hill to Ludgate-hill, with an incline of 1 in 38 (139 ft. per mile) and the long bank from Peckham to the Palace."

"To meet this difficulty, Mr. W. Kirtley, Locomotive Superintendent of the line, designed in 1874 the powerful tank engines of which we give an outside view above. The first of eighteen of these engines was delivered on the line last August, since which period they have given every satisfaction. These are among the most powerful passenger engines ever used on any railway, the cylinders being 17½ in. diameter by 26 in. stroke, while the four-coupled wheels are only 5 ft. 3 in. diameter. The bogie wheels are 3 ft. diameter. The total wheel base is 20 ft., and that of the coupled wheels 8 ft. The total heating surface is 1,148 ft., and that of the grate 16½ ft. The tanks hold 963 gallons of water, and the bunkers 81 cubic feet of coal."

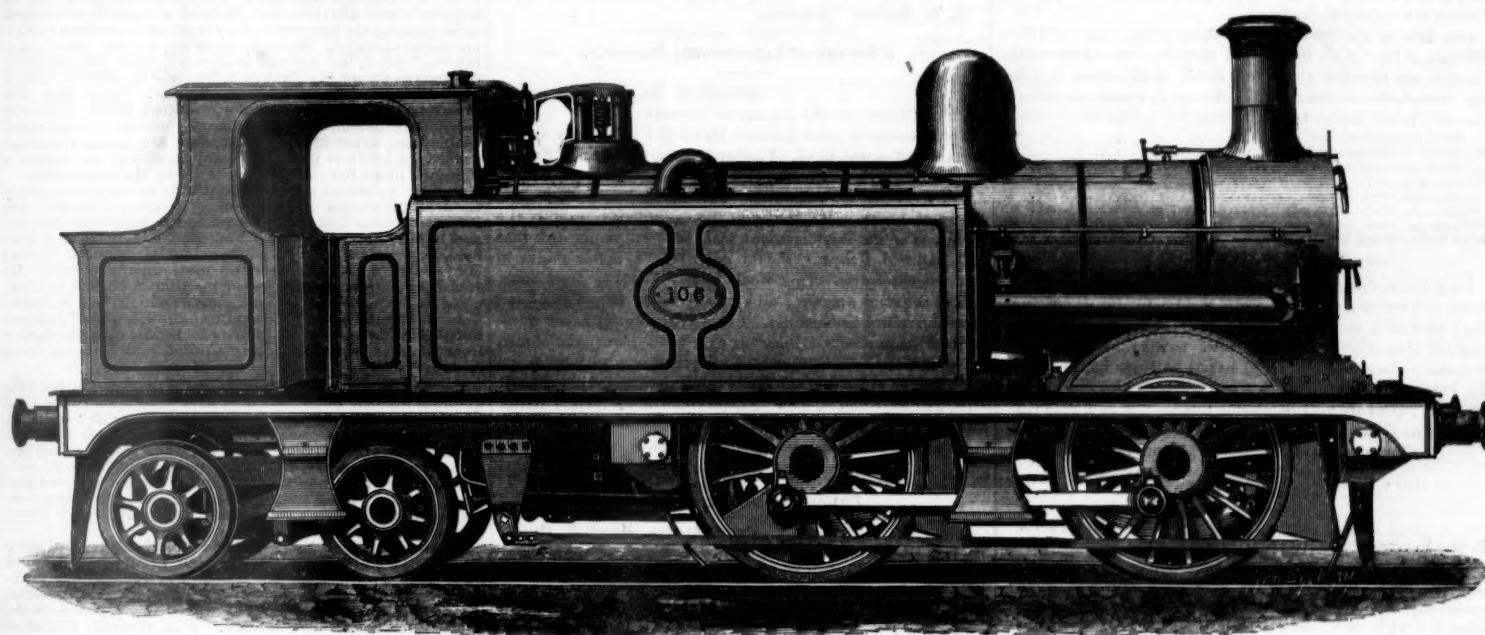
The fire box is made of copper plates ½ in. thick and is 4 ft. 9½ in. long. The barrel of the boiler is 51 in. diameter, with 202 brass tubes 1½ in. diameter and 11 ft. 3 in. long.

stand at all." I had to confess he was right and drop the argument. What we require are the results of practical experiments. Give us those, and we can soon make reliable formulas for the use and benefit of all. These experiments cost money; they must be got, if got at all, through the patronage and assistance of the railway companies. Will they assist? I think with you that they will, if they are properly approached, and shown that the advantages to be derived will be immense; when compared with the small cost of the experiments; also, that the affair is in the hands of good and reliable men who are the devotees of scientific truth, whose reports will carry weight and become standard authority.

You have in your article stated all these points very clearly and truly, so I feel I am merely restating and indorsing what you have said. If the railway companies will take the trouble to look into the matter, they will find that they have already received an immense benefit from the investigations and labors of the Master Mechanics' and Master Car-Builders' associations. The matter of increasing the journal of a railroad car axle from 5½ to 7 inches long and from 3½ to 3¾ in. in diameter and making it a standard appears to be a very small thing, but it is in my eyes a very big thing when carefully viewed in reference to results, which are, the capability to carry more on a car, and a reduced liability to heating. I ventured nearly twenty years ago to make car-axle journals 6½ inches long as a standard for South American railways which were built under my direction. I was induced to do this in the face of American practice, and because I had read a paper of Wm. Sellers on the merits of long journals for shafting, and because I had seen in the yards of the London & Northwestern Railway, of England, car-axes with journals of all lengths, from 4 inches to 8½ inches. With this data I got courage enough to

dynamometer, and save the amounts of the premiums a hundred times over, in reduced consumption of fuel, reduced bills for repairs of engines and cars, reduced wear and tear of rails, reduced number of accidents, more accurate running time kept, and increased capability of engines to haul trains. Mr. Dudley has done railway interests a great and valuable service, and should not only receive their sincere thanks, but their attention and patronage.

While speaking of clever inventions and the wants of railways, there is one I should like to see some clever inventor take up and work on until he makes it a success. I mean a car-brake arranged with shoes to operate on the rail as well as on the wheels, where steep gradients occur. On our railways in Peru and Chili, in South America, where we have gradients of 30 and 40 miles continuous, of 3 to 4 per cent. (158 to 211 ft. per mile), something of this kind is a necessity if the roads are to be worked without ruin to all interested. Depending on the brakes applied to the wheels alone is most disastrous; the continued frictions are so great as to make the wheels nearly red-hot. The fears of the brakemen are so great, when the trains come thundering down the mountain side, and follow a continuous series of curves of 350 ft. radius, on the very edge of precipices a thousand feet or more deep, that they put on the brakes with full force, "scotching" the wheels and soon ruining them. I wish to see the rails participate in this braking matter, and if you will kindly bring it to the notice of railway men who have inventive brains, I have no doubt but that in a short time we will have something to relieve our dire necessities on mountain railways. When these mountain railways in Peru were first projected, two of them passing over the main Cordilleras, one by a summit of 14,665 ft. above tide, the other by a summit



TANK LOCOMOTIVE FOR THE LONDON, CHATHAM & DOVER RAILWAY.

Designed by Mr. W. KIRTLEY, Locomotive Superintendent; Constructed by Messrs. NEILSON, Glasgow.

The weight of the engine is not given, but it must be at least 75,000 lbs. with a full supply of water and fuel, and probably the driving-wheels carry a load of 50,000 lbs.

This class of engine seems to be growing in favor in Europe and is beginning to attract some attention here.

Contributions.

A Bureau of Experiments.

No. 63 PINE STREET, New York, March 17, 1876.

TO THE EDITOR OF THE RAILROAD GAZETTE:

I read the article in the *Gazette* relative to "A Bureau of Experimental Research" with much pleasure, and thought to myself, then you have "went, and gone and done it;" you have hit a very interesting nail right square on the head; but whether you will be able to drive it to any depth into the wood of our railway trains, remains to be seen. I have long been anxious to see some systematic course adopted and carried out, by which we can obtain reliable information on a number of railway problems, which, we ought to be ashamed to confess, we are in ignorance of, and that, too, after having enjoyed for nearly half a century the astounding results showered down on us by the introduction of railways. What we require is the truth and facts clear and distinct on all those points connected with railways which bear on the great question, the problem of all problems in railway science and railway economy, namely, the cost of carrying a ton a mile. This is the key-note of the whole thing. We may theorize, and deduce formulas from elaborate calculations, but they are not what we can swear to and pin our faith on. We must get the data required from experiments, and those experiments must be conducted by honest, educated, industrious men whose brains are not twisted and warped out of shape by prejudice, or a desire to prove some crotchet of their own fancy. I recollect some twenty-three years ago, while dining with Robert Stephenson in London, trying to prove something by advancing a theory. When Mr. Stephenson turning to me said: "Now stop; we have got out of the age of theory into that of practical experiment. What will not stand that cannot

go a half inch better than American practice, and now I find the Master Car-Builders are going another half inch better still. Who knows if that is the limit of economy in a journal, when viewed in reference to what a car can carry safely in proportion to its weight? No one. We must live and learn; but we are very slow about learning. Your bureau of experimental research will hasten our acquiring rich stores of knowledge, knowledge that can be turned into gold. That is the kind of knowledge railway capitalists are eager and hungry to obtain. Show them the road to that, and they will hug you to their innermost heart.

Mr. Dudley has done railway interests a great service by the invention and construction of a reliable dynamometer which can give and record accurate results of train resistances at all speeds from a few pounds up to the full power of a large engine, and at the same time record the speed. He called when here a few days since and showed me some profiles of actual work done by his dynamometer, which were most interesting and wonderful, when looked at in reference to the minute variations of resistances recorded clear and distinct on his profiles at thirty miles an hour, the resistances varying from ten pounds to over twenty thousand pounds. And then consider that this instrument is *sui generis*, a new piece of mechanism sprung from the brain of a man who has never had anything to do with similar machinery. Mr. Dudley showed us one profile of a 90-mile run with a heavy train on the Lake Shore Railway, on which the whole work was so recorded that any engineer could read it and calculate from it the foot-pounds of work done by the engine for each 1,000 feet of distance. I venture to predict that the time will come when all railway companies, conservators of their moneyed interests, will own and use instruments of this kind, to measure the relative resistances on every mile of their roads, to measure the frictional resistances of different types of engines and cars, and of similar types by different builders; also to measure and record the condition of the track for each mile, for the instrument performs this duty in a most astonishing manner. When railway companies come to study true railway economy, they will offer premiums to gang masters of track repairs for the best kept division; they will measure the condition of different divisions with Dudley's dynamometer, or an equally accurate

tunnel, the floor of which is 15,648 ft. above tide, there was some doubt about getting engines to mount those grades with anything of a train and to maintain their steam-power at such fearful elevations. I wrote the interested parties, "You need not fear, the problems to solve are purely philosophic; I will send you the engines that will do the work, haul your trains to the summits and maintain their steam-power. You be careful that you get the trains down again safely." The difficulty of getting the trains down safely was not as well understood at the start as it is now.

My pen has run me off the track of bureaus of experimental research. I hope to see you succeed. Call in the assistance of Stevens' Institute to help you drive that nail home deep into good solid wood until it does duty and gives good results.

W. W. EVANS.

The Effect of the Earth's Motion and of Wind on Trains.

TO THE EDITOR OF THE RAILROAD GAZETTE:

"Full many a calculating head
Has racked its brains, its ink has shed,
To prove by metaphysics fine
An hundred means but ninety-nine."

About the first of January, 1799, a great deal was said in the papers about the time of the closing of the eighteenth century and the beginning of the nineteenth. Some contended for the above date,

"While others at these savans wondered,
And said, one more would make a hundred."

I have been reminded of that controversy in reading the articles being published at the present day in regard to the extra wear upon the eastern rail of a railroad running north and south. Some have tried to prove that the earth revolving from east to west has the effect to throw a train heavily against the eastern rail and thus produce the greater wear. Have the adherents to this delusion ever demonstrated their philosophy by a perpendicularly balanced spindle, proved to be perpendicular by spirit level? If the theory be true the spindle would fall to the east; and hence, all perpendicular objects, depending upon specific gravity for uprightness, must lean a little to the west. Perhaps this is why some of our "upright" men at Washington have recently fallen. They did not lean enough to the west, i. e., to the Indian trading posts and whisky rings,

As a locomotive engineer, I have drawn trains on north-and-south, and east-and-west roads, on the open prairies of Illinois, where there is a good chance to test this question, and where, no doubt, the earth revolves as fast as here in New York. When the wind was strong from the west I could draw 28 loaded cars eastward very easily; when it was in the south or southeast I failed to draw so many, but could draw that number west. On the north-and-south road I could draw 28 loaded cars with ease on a day when there was no wind or at night when it was still, or there was a northeast or east wind, which was generally a light wind. When the wind was in the west or southwest the train always drew very heavily going south, and when in the west or northwest it drew equally so in going north. Now, the prevailing winds are from the west and the bearing against a long train of cars is greater than the force required to drive a full-rigged ship, for we spread a bigger amount of sail. This force bears the train heavily against the eastern rail and consequently the greater wear. "He who runs (a locomotive or a newspaper) may read."

C. L.

"The Usual Courtesies."

TO THE EDITOR OF THE RAILROAD GAZETTE:

I have been industriously engaged in giving away the revenues of the company by which I am employed ever since the middle of last December, and think that we have about finished up the issue of annual passes. As you like statistics, I send you the particulars of those issued up to this time, and you or any one else can see that we have used fair discretion in putting them where they would do the most good. We do this from principle, but we would scorn anything like bribery or corruption; at least we clerks would, and we think our superior officers are equally virtuous.

Our line is six hundred and three miles long, and runs through or into three States, and probably from these statistics you can calculate about how much deadheading is going on; though the shorter the road, the more passes per mile, of course. Yearly passes have been sent out as follows:

To other railroad officers.....	762
Managers of express and freight lines.....	103
Members of Congress.....	24
Governors.....	3
Bishops and other clergy.....	18
Judges.....	16
Editors.....	31
Dead beats (several kinds).....	62
	1,019

I am inclined to think those to the judges are a good investment, and the ministers are pretty good advertisers. Editors don't amount to much as an advertising medium, but they are angry if they don't get passes, so we have to give them, for they can make a fuss and do us harm. All our officers think the whole thing is a shame, but as everybody else gives passes we must. Ours are very handsome this year, with a gold title, and cost us about ten cents a piece.

Your obt. servt.,

PRESIDENT'S SECRETARY.

Centennial Fares.

KANSAS CITY, March 16, 1876.

TO THE EDITOR OF THE RAILROAD GAZETTE:

At the meeting of the Ticket Agents' Association held at Louisville, Feb. 19, rates to the Centennial, and also certain conditions on which the tickets would be sold, were agreed upon, which I think deserve more attention than they seem to have received.

Mr. Shattuc, in his address, truly said that for the roads to secure their own profits they should use all possible means to secure the success of that grand undertaking, and that "success means the attendance of the greatest number of people, and the greatest satisfaction to the public mind;" and again, that the people "will come with a desire to see other places and other objects than those of the Centennial;" also that "the spirit of so great an occasion requires that they should take the people from their homes and return them at as cheap fares as is consistent with moderate profits to the roads."

Let us see how far the Convention, and since then the roads represented, have adopted the plan outlined in the address quoted from. They first agreed that the reduction should be only 25 per cent. from present rates, which leaves the fare much higher than usual excursion rates.

Then the tickets were made good for only thirty days. Travelers from many points would be at least one-fourth of the entire time on the road, which would leave them only three weeks to see the exhibition and the two great cities which have been made terminal points. By consulting "The Travelers' Guide" (the recognized organ of the Association) we also find that some of the roads allow no "stop-over" privileges on Centennial tickets! Was ever such folly shown before by parties soliciting custom? No method better calculated to discourage travel could have been devised than the limitation of time and stop-over privileges, and unless there is a substantial change made, the roads will find too late that they have been blind to their own interest as well as the public convenience. A great many, especially from the West, are not going on account of the Centennial alone; they intend visiting friends and their old homes, and if their tickets are limited to thirty days they will prefer waiting until times are better. What the roads should do is to make their tickets good until say ten days after the exhibition closes, and allow as many and as long stop-overs as may be desired, within the time mentioned. A few of the leading roads are shrewd enough to see the wisdom of allowing passengers to stop and resume their journey at pleasure, and all should do so.

Another reason why the changes suggested would be profitable for the roads is that in case rates should be "cut" towards the last (which is far from improbable considering the high tariff adopted), the difference in all tickets sold at present rates would be clear gain, and every railroad man knows how much more economical it is to carry good average loads all the

season than to do the greater part of the business within the sixty days that the roads are crowded with freight. Under the present arrangement, people can do no worse by waiting, and may do much better; by making the changes proposed there would be many inducements to go early in the season. Travelers will certainly take the route that, with equal fares, allows them the most privileges, and the roads would do well to bear this in mind and advertise the privileges they allow.

H.

A Card.

CINCINNATI, March 16.

To the Members of the American Railway Master Mechanics' Association:

In compliance with a resolution passed at the last annual meeting, the General Supervisory Committee have had under consideration the propriety of changing the time of meeting of our next convention, and being satisfied that a change to a later date is advisable, they have decided upon the third Tuesday of May instead of the second as provided in the constitution, and notice is hereby given that the Ninth Annual Convention of the American Railway Master Mechanics' Association will meet in Philadelphia May 16, 1876, at such place as may be hereafter designated by the Committee of Arrangements, of which due notice will be given. It is believed by the committee that this meeting will be more interesting than any that have preceded it. The questions before the Association are of vital importance to railroad interest, and the information to be obtained by a visit to the Centennial will be invaluable. The railroads of the country are therefore respectfully invited to send their representatives to this convention, and the committee extend a cordial invitation for them to come.

J. H. SETCHEL, Secretary.

H. M. BRITTON, President.

A Bureau of Experimental Research.

BRUNSWICK, Me., March 11, 1876.

TO THE EDITOR OF THE RAILROAD GAZETTE:

The editorial in your issue of March 10 I think hits an important nail on the head. I believe such a "Bureau of Experimental Research" as you suggest would be of incalculable benefit to the railway companies. I, long ago, when Associate Editor of the *American Railway Times*, proposed exactly the same sort of an establishment, and, I believe, suggested that each railroad company should contribute a dollar a mile to start the enterprise. This would make \$75,000 to start with. Indeed the same amount paid annually would be no great tax upon the railroad companies. I agree entirely with you in regard to the necessity of selecting exactly the right kind of men to conduct the establishment, and the need of a suitable board of control, in order that the funds might be applied judiciously. This, I think, could be done. I hope you will not let this matter rest until steps are taken to establish such a Bureau of Experiment as you have suggested.

GEO. L. VOSE,

Prof. Civil Engineering, Bowdoin College.

Fitting Wheels and Axles.

PHILADELPHIA, March 21, 1876.

TO THE EDITOR OF THE RAILROAD GAZETTE:

Allow me to thank you for the very complete explanation given in your last week's issue concerning the fitting of wheels and axles at Messrs. A. Whitney & Sons', of this city.

The method intended to be referred to in my letter was that of facilitating and insuring the perfect fit of the axle in the wheel by means of the hollow reamer which you mention. That you should have taken it to refer to more can, however, hardly be regretted after reading your interesting and eminently satisfactory statement. You have placed the matter in its proper light and supplied some facts which were doubtless omitted in the report of the proceedings of the Master Car-Builders' convention.

F. B. MILES,

of Ferris & Miles, Philadelphia.

Railroad Legislation in Iowa.

The following account of the proceedings of the late Iowa Legislature, concerning proposed modifications of the railroad law passed two years ago, is given in a letter to the *Chicago Inter-Ocean*, dated at Des Moines, March 16:

Contrary to expectation, the Legislature has adjourned without making any change in the railroad tariff law. Yet it was the most exciting topic of the session. In the election of many members it was made a direct issue. When the body assembled, the opinion prevailed that an essential modification would be made. Scores of petitions for repeals began to flow in. In many cases they were signed by every business man in the particular district. For, upon them the operations of the law had worked injuriously. True, it had reduced local rates—that is, upon shipments originating and terminating within the State. But the business of the trunk lines is mainly interstate. Only one-fourth of their traffic is local. On that portion alone the Legislature could reduce the rates. The amount taken off the local business could be more than made up by increasing the through rates. That policy had been pursued. In fact, the companies had earned more money than they would have done if the law had not gone into effect. All the grain and live stock was carried out of the State and found a market in Chicago or Milwaukee. These vast products exceeded the capacity of the river towns to handle. The latter, however, gained by the law. It enabled them to shut out Chicago from the lumber trade of the interior. Their wholesale dealers were also able to supply the interior merchants with goods at less rates than could be obtained from Chicago. Thus Davenport, Dubuque and Clinton benefited by the law, while the producers were taxed for it in the shape of increased freights on their shipments to Chicago. The fight thus became triangular—the river towns against Chicago, and the eastern versus the western part of the State.

The question of reasonableness never entered into the controversy. The advocates of the present law simply showed that it reduced rates from what they formerly were; the greater the reduction the more plausible seemed their argument. They cared not whether the reduction was below cost. That point they studiously evaded. It was clearly shown that the Iowa rates were much lower than the local rates in force on a dozen or more prominent Eastern roads, whose business per

mile of road was many times greater than that of any Iowa road. It was also stated that business could not be done any cheaper in Iowa than it could in the Eastern States. Why, then, should Iowa roads be compelled to carry for less? No one could tell; neither did they seem to care. As the member from Harrison County said, the question of reasonableness rested wholly within the Legislature. Their predecessors had prescribed the rates in force, and the fact that they had done so made them reasonable. Of course this was conclusive—to the granger mind. The member referred to is a lawyer and candidate for Congress. The same position was held by other legal members. They contended that the rates of fare and freight prescribed were conclusive, not *prima facie*, evidence of reasonableness, whether in actual truth they were or not. One luminary from Keokuk went further. In a speech over an hour long he labored to show how Mr. Justice Miller, of the United States Supreme Court, and Judge Dillon, of the United States Circuit Court, were in error in exempting inter-State commerce from the operation of State laws. He held that Iowa statutes would regulate commerce to New York, or even to England, if need be.

These discursive remarks found utterance during the discussion of the railway question. It continued over seven days in the House. Two bills had been reported from the Railroad Committee. One, known as the Bush bill, proposed to repeal the tariff of rates prescribed in the present law, allow the companies to make their own freight schedules, left passenger rates untouched, prohibited unjust discrimination, and provided for the appointment of a Commissioner who was to supervise the conduct of railroads. The other, or Thayer bill, proposed to retain the present rates, but would so change the classification of roads, according to their earnings, as to place lines or branch lines that earned but little in a lower class, and thus allow them to charge higher rates. It also provided that, if any rates were shown to be unreasonable or oppressive, the Commissioner should, after hearing the case, submit the facts to the Executive Council, who were to meet twice a year, and if they deemed the complaint established they were to have discretion to increase or decrease the rates 15 per cent. The limitation was subsequently changed to 20 per cent. This feature of the bill was by many legal gentlemen believed to be unconstitutional. Had the bill gone into effect, and increases allowed in accordance therewith, and the Supreme Court afterward had declared it invalid, the corporations making the increased charges would have been liable to enormous damages. Because, therefore, the bill contained no material relief, the railroad companies, with one exception, declined to accept it. That exception was the Illinois Central. They had never complied with the law. Hence they were threatened with costly litigation, to avoid which they would accept any modification. A change, however slight, would enable them to set up, in defense, that the reason they disregarded the law was that it was unjust, and as an evidence of that fact, plead the change since made by the Legislature.

During the consideration of these bills in committee, several eminent gentlemen advocated their respective merits. The Railroad Committees of the Senate and House met in joint session to hear the arguments. The Hon. J. F. Wilson, of Fairfield, made an elaborate plea on behalf of the railroads. Colonel Milo Smith, of Clinton, made the most practical speech. Mr. J. C. Clarke, General Manager of the Illinois Central Railroad, defended the action of that company, while Mr. C. W. Smith, General Freight Agent Chicago, Burlington & Quincy Railroad, illustrated the operation of freight tariffs. Representatives from the river towns—especially Clinton and Dubuque—were also heard.

Had the committee reported promptly there can be but little question that the Bush bill would have passed the House. But the Chairman, the Hon. Rush Clark, of Iowa City, was determined it should not pass; therefore he held it back until both Houses had agreed to finally adjourn, when there was not time to enact a fair measure. In this course he was aided by the Governor. Every influence that could be exerted against repeal was put forth. The Executive influence was especially potent, and to it, more than to any other cause, the result finally reached, may be attributed.

Not that Governor Kirkwood and his friends resisted every attempt at modification. For the press of the State clamored for repeal. Petitions by the hundred to the same effect were presented. But they wished to shape the modification so that in reality it would not benefit the companies, then claim the honor of having modified the law. With precisely this intent the Thayer bill was presented.

The question came up in the House on Tuesday, the 7th inst., and continued until and including the 15th. The Bush bill came in as a majority report; the Thayer bill as a substitute proposed by the minority of the committee. The latter was adopted by the House for consideration. Up to the fifteenth section it did not differ from the Bush bill. That section was soon reached. Then the first test vote was had on a motion to amend by striking out all after the fifteenth section and inserting the Bush bill. The motion was lost by 24 majority. That settled the question of repeal. Two other substitutes were subsequently proposed—one by Mr. Stone, another by Mr. Dixon—each looking to the repeal of the tariff of rates embodied in the law. Both were rejected by large majorities. There remained but one course for the companies. The Thayer bill would afford them no substantial relief. They were unwilling the Legislature should have the credit of doing what they really had not done. Therefore they desired the defeat of the Thayer bill.

The friends of the bill felt confident they could pass it. Being over-sanguine, they allowed it to be talked to death. It soon became manifest the bill would not stand exposure. Whenever any objectionable features were pointed out, its friends sacrificed them. Thus the proposed classification was stricken out. Members resident along roads likely to benefit by the provisions for increased rates refused to vote for the bill with that section retained. By pleasing the branch-line members others were disaffected. The latter contended that nothing material or beneficial remained in the bill. Others again were opposed to allowing the Executive Council to raise the rates 20 per cent. unless they could control the through rates. So a provision was inserted that the increase should be allowed only on condition that the companies would make a corresponding reduction in through rates. In this way, if in no other, they proposed to control inter-State commerce.

This progress was attained after seven days of talk. One member loudly and vehemently prayed that if Davenport and Dubuque were to be always dwarfed by Chicago, and Iowa to be dependent upon her for a market, God would cause Lake Michigan to swallow her up, or send down upon her a fire that would burn her up beyond resurrection. Such, however, was only one phase of the discussion. Two members, at least, discussed it with an intelligence remarkable for its rarity. Their speeches always and deservedly commanded attention. Mr. Stone participated early in the discussion. Mr. Dixon took no part until toward the close. As debaters they were far superior to any members on the floor. Both spoke forcibly and unequivocally for repeal. Mr. Dixon told how two years ago the present law was passed. He was then on the Railroad Committee, and stood there alone opposed to "regulation," so called. One bill referred to the committee at that time simply read, "A bill to regulate fares and freights and rolling stock." Those members were mainly farmers, who knew no more about regulating freights "than a hog did about the Pentateuch." This last comparison roused the ire of the member who wanted Chicago burned up. Passionately and indignantly he exclaimed, "Were the sovereign people of the great State of Iowa to be compared to hogs?"

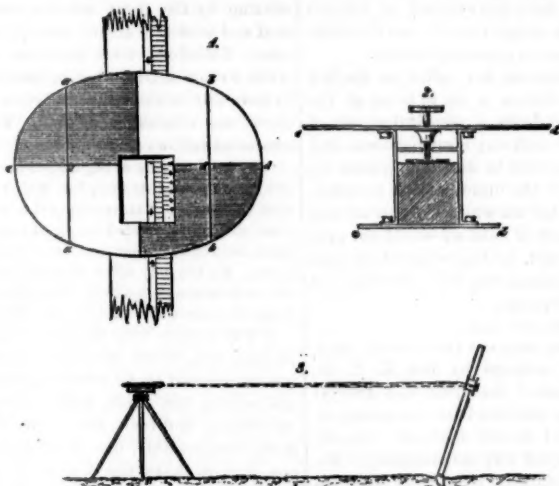
Thus the discussion continued. Finally, on Tuesday, when the Senate refused to concur in the resolution to extend the time of adjournment one week—until the 16th inst.—the House came to a vote. Had the vote been taken as soon as the bill was taken up it might have passed; but Mr. Clark, who had it in charge, suffered it to drag along until several members had endeavored to amend it and failed. Then a number of those hitherto counted upon as its friends announced their intention to vote against it if the clause allowing the council to change the rates on "any part of a railroad" were retained. Objection was also made to the proposed salary of Commissioner. The section providing for a clerk had previously been stricken out. The motion to reduce the salary of Commissioner from \$3,000 to \$2,000 failed. Amid general murmurs of discontent the vote on ordering the bill to a third reading was taken. Several members rose to explain their votes. All professed to desire a modification. Mr. Mills, of Marshall, made a slashing explanation by way of denunciation of the bill and the "cursed tariff law." Mr. Stone said during six years of service in the General Assembly he had never before risen to explain his vote. Now he was left no other alternative. He regarded the present law as an iniquity, and the proposed bill as a delusion and a fraud. The simple question was, Which was the less iniquitous? The wrongs of the present law he knew, but the hidden evils of the bill he did not; therefore he preferred to "bear the ills we have than fly to others we know not of." The vote stood 58 yeas to 36 nays. The bill was lost, and the men who staked so much upon its passage were crestfallen and defeated.

Next day the matter came up in the Senate. As it was evident that, whatever action might be had, no bill could be got through the House, a motion to indefinitely postpone passed the Senate. Thus until the next session the law will stand as it came from the hands of the General Assembly two years ago, unless in the meantime the Supreme Court of the United States should overturn it.

Gieseler's Levelling Target.

This instrument is thus described by the inventor:

"To obtain correct results when levelling, it is essential that the rod should be held perfectly perpendicular. The observer is able by means of his vertical cross wire to perceive any side-way deviation of the rod from perpendicularity, but he is not able to discern whether the top of the rod is not inclined either to the instrument or in the opposite direction. This difficulty,



GIESELER'S LEVELLING TARGET.

which no doubt is the origin of a great many mistakes made in levelling, is entirely removed by the target illustrated in the engravings.

"The principle of this target is extremely simple, and may best be explained as follows: Suppose a target of the old kind, which in its front view looks exactly like the front view of the new target in fig. 1, to be cut along the two vertical lines *aa* and *bb*, thus dividing it into three parts, one centre-piece and two wings. Suppose, furthermore, the centre-piece to remain in its old place at the front of the rod, while the two wings are removed to the rear of the rod, then the consequence evidently will be, that the horizontal line *cc dd* will appear to the observer as one unbroken line when the rod is held perfectly perpendicular. Any deviation from perpendicularity in the direction of the instrument or away from it will cause the two parts *cc* and *dd* of the horizontal line, situated at the rear of the rod, in the wings of the target, either to show above or below that part *cd* of the horizontal line, which is situated at the front of the rod, in the centre-piece of the target.

"Fig. 1, which gives a front view, and fig. 2 a top view of the target one-fourth of full size, will, in addition to the above description, clearly explain the whole. Fig. 3 shows the working of the instrument when the rod is held inclined."

Further information can be procured of Mr. E. A. Gieseler, C. E., the inventor, whose address is No. 100 Fulton street, New York.

THE SCRAP HEAP.

Railroad Manufactures.

The Mason Machine Works at Taunton, Mass., started up full time, March 20.

The Topeka (Kan.) Rolling Mill started up recently on some orders received.

The car shops of the Philadelphia & Reading Company at Reading, Pa., are running extra time. They are crowded with work repairing old and building new passenger cars in preparation for the Centennial travel.

Messrs. Angel & McCormick, who leave the McNairy & Clafin Company's works at Cleveland, O., are at work on an iron railroad bridge of 110 feet span, a quantity of minor bridge and roof work, and a number of street railroad cars.

The Barney & Smith Manufacturing Company are now running 700 men and have under orders 18 sleeping coaches to be equal in finish to any now running; 14 day coaches; 650 freight cars, 500 of them being eight-wheeled merchandise cars; 150 freight cars for 3-foot gauge, and six narrow-gauge passenger coaches, in all over \$700,000 worth of work. They have many inquiries about cost and dimensions of narrow-gauge cars, mainly for short local roads.

The St. Louis Bolt & Iron Company's works are in full operation.

The Bessemer steel works of the Vulcan Iron Company at St. Louis will be ready to start up about April 15.

The Lawrence Iron Company at Ironton, O., has some contracts for steel rails.

The Cleveland (O.) Rolling Mill Company's new Siemens-Martin steel furnace is at work, the first heat having been made about two weeks ago.

An effort is being made to reorganize the Middlesex Iron Company at Middlesex, Pa., by the creditors, who propose to take the rolling mill and run it.

The Saucon Iron Company, whose blast furnaces are at Hellertown, Pa., proposes to issue bonds to the amount of \$300,000 to fund its floating debt.

The Milton (Pa.) Car Works has just received an order for 50 gondola cars.

The Pittsburgh Forge & Iron Company's works are running full time on bar iron and rail joint bars. The company has an increasing number of orders for car axles and other railroad forgings.

The Charlotte Furnace, in Carter County, Ky., is in full blast, making 18 tons per day of hot-blast charcoal iron.

The Rogers Locomotive Works at Paterson has a little new work on hand besides some repair work.

A number of the Pittsburgh iron manufacturers are considering a plan for bringing to their works by a pipe line the gas from some gas-wells 35 miles from the city, with a view of using it as fuel in the manufacture of iron.

The Struthers Iron Company's furnace, at Struthers, Mahoning County, O., during the ten weeks ending March 11 turned out 4,515 tons pig iron. The heaviest week's run was 500 tons of Bessemer pig. The furnace uses Lake Superior and local ores, and for fuel six-sevenths block coal and one-seventh Connellsville coke. It is open-top, 54 feet high and 16 feet bosh.

Graff, Bennett & Co. and the Pittsburgh Locomotive Works are making the iron work for the new Point suspension bridge at Pittsburgh, for which the American Bridge Company, of Chicago, is contractor.

The iron furnaces at Chickies, Lancaster County, Pa., have been transferred by E. Haldeman & Co., who have owned them for 34 years, to a new concern, known as the Chickies Iron Company. The old firm has been dissolved. The officers of the new company are: President, Paris Haldeman; Treasurer, Horace L. Haldeman.

Riehle Brothers, of Philadelphia, will have one of their large testing machines in Machinery Hall at the Centennial, and

place at 9 p. m., bringing back our material and machinery, excepting engine No. 10, in good condition and ready to be sent back with General Custer in the morning. Not a man injured during the sixteen days of fight on the plains, and no one seriously frosted.

"This in many respects has been an eventful expedition, but time and space forbids too much of detail. Before closing we would like to say that the cuts on the Dakota division should be triple fenced, or it can never be kept open. One inch of snow-fall on these plains will fill every cut from Fargo to Bismarck. Tree planting would be better. But until the company is better prepared to plant trees, fences must be constructed or the road closed in winter."

A Good Record.

The Hornellsville (N. Y.) Times says: "Aaron Marks, engineer on the Erie Railway, has run engine No. 11, Western Division, two years and three months without having been put into the shop for any work or losing a single day in that time. He has rode on her 94,591 miles, a distance of about four times around the world. Where is the engine or engineer than can beat this record in two years and three months?"

Large Sales of Steel Rails.

The Engineering and Mining Journal says that contracts have been made with the new Scranton and the Cambria Works for the steel rails to be used in laying the third rail on the Erie. Each company is to furnish 12,500 tons, at \$66.25 per ton, delivered on the road, in monthly payments to extend over two years. The Lehigh Valley Company has contracted with the Bethlehem Works for 12,000 tons for the third rail from Waverly to Buffalo. We presume the Scranton and Cambria orders were dependent on the contract for a third rail from Waverly to New York, which has fallen through. It reports also a sale of 1,200 tons of steel rails to be delivered at New London, at not more than \$64, and 2,000 tons for Western delivery for \$61 at the mills. These large orders have filled the mills with work, and make it difficult to place orders for immediate delivery. Prices are quoted at \$62 to \$64, with some prospect of a further advance.

Fine Cars.

The Vandalia Line has recently put some new Pullman cars on its road which are thus described by the St. Louis Republic: "The cars are about sixty feet long, and in externals are exactly the same as the other palace cars of the Pullman Company. Entering the door, however, one is greeted by a magnificence which would seem to verge on extravagance. At the left is a gentleman's toilet room, the fittings being all heavily silver-plated, and all the modern conveniences of the toilet being offered. At the right is first the saloon, then a locker, and then a little close apartment containing an immense stove, which is so constructed and secured that it cannot be upset, nor can coals escape from it, even though the car were rolled down hill. This heats the car by means of hot water pipes, free from joints, which traverse each seat. Then comes the main room of the car, which is finished with all the elegance that plate glass mirrors, ebony and French walnut veneering, gilt designs in ebony, and Brussels carpets can give it. There are mirrors everywhere. An excellent improvement is a neat little movable arm rest under each window, of which all travelers have experienced the need. The berths, with their handsome, heavy hangings and novel conveniences for disposing safely of one's effects, are marvels of completeness. The window curtains are stiff, pretty, adjustable at any height by a spring, and when pulled down completely exclude all light. Passing on to the other end, one sees two doors, with cut-glass panels, which swing both ways. One of these leads into a little room which, in its seclusion and the perfection and elegance of its appointments, rivals any hotel bridal chamber. When not in use for this purpose, it makes a splendid little drawing room. The other door opens into a narrow, carpeted passage to the right of the bridal chamber, leading first to the ladies' saloon and beyond that to another little room, which is a handsome and cozy smoking room. Here, therefore it has always been necessary to go out-doors to reach the smoking room, but here everything is under one roof, yet the smoking room is most completely cut off from the balance of the car. But this is not all. Passengers—especially those who smoke—have often felt that a cup of coffee would be a valuable adjunct to a pipe in securing enjoyment. Here, then, just outside the smoking-room door is a little recess or close kitchen, containing all the requisites for manufacturing a cup of hot coffee on short notice, together with a commodious ice-chest and storage-room for a considerable commissary supply. There are numerous little inventions which advance comfort, and which would be promptly noticed by the traveler, but which need not be mentioned here. One, however, which subserves passengers' safety, is a little arrangement which makes it impossible for a berth to shut up in case of collision or overturning of the car. The danger of being thus fastened in and smothered has hitherto hung over travelers, but exists no more. Suffice it to say that no space is allowed to go to waste in the car, and nothing which the most ingenious mind could suggest has been left out. Some idea of the grandeur of the appointments may be obtained from the fact that one of these little palaces cost between \$20,000 and \$25,000—a small fortune in itself. The Vandalia line has two of these cars—the Bothnia and the Kenilworth—in use on its Cincinnati trains."

Transportation in Congress.

In the Senate, on the 9th Mr. Cockerill, of Missouri, said he desired to offer a resolution requiring an investigation by the Judiciary Committee into certain acts of Congress, and acts and proceedings of certain railroads. He then sent to the Clerk's desk and had read a resolution instructing the Committee on the Judiciary to inquire whether patents for lands have not been improperly issued to the Southern Pacific Railroad Company of California, and what action shall be taken to preserve the rights of actual settlers on such lands, and also to protect and defend the rights and duties of the Government as to the ownership of such land, and the right of the people to make pre-emption and homestead settlement; and that the Committee have power to send for persons and papers. Also directing the Secretary of the Interior to suspend any further issue of patents for lands to the Southern Pacific Railroad Company of California. Pending the investigation, ordered to be printed and lie on the table.

In the Senate on the 13th: Mr. Whyte, of Maryland, introduced a bill to incorporate the Washington City & Atlantic Coast Railroad Company. Referred to the Committee on the District of Columbia.

Mr. Morrill, of Vermont, obtained leave to introduce a bill to remove from the streets of Washington the tracks of all railroads using steam power, and a memorial of citizens to accompany the bill. Referred to the Committee on Public Buildings and Grounds.

In the House on the 13th: Mr. Brower, of Kansas, introduced a bill granting the right of way through the Indian Territory, to railroad companies.

In the House on the 21st:

Mr. Jones, of Kentucky, of the Committee on Railroads and Canals, reported a bill to authorize the Washington, Cincinnati & St. Louis Railroad Company to construct a narrow-gauge railroad from tide water to St. Louis & Chicago. Re-committed.

will test there any specimens of iron, steel, etc., which may be furnished them for that purpose. A nominal charge will be made, just sufficient to cover the cost of attendance.

The Wagon Car Works at Chattanooga, Tenn., have contracted to build a number of construction cars for the New Orleans Pacific road.

Snow on the Northern Pacific.

A correspondent of the St. Paul Pioneer Press, who went through from Fargo to Bismarck on the first train of the season which ran over the Dakota Division of the Northern Pacific thus describes the return trip: "It is unnecessary to detail the retreat. It is enough that we had our Beresina, but we did before reaching thirteenth 'siding.' The wind had been blowing all day. About three o'clock p. m. snow began to fall, and the blasts from the southeast were terrific. Stand it! Face it! No. These terrible wind-gusts, carrying snow so thick that no object can be seen three paces distant, hurled with a force of seventy miles per hour, are more than poor, weak man can endure. Out on the open spaces we must grope as in the dark, and if long exposed lie down and die. In the cuts one would soon smother, or, facing the wind, freeze standing upright. Here we are for the night. Drifts ahead of us, drifts behind us; the whole atmosphere one solid drift, mountains high! What an overpowering storm. The whole earth with all its great weight in utter confusion and with terrible impetus appears to be driven along by the storm king, whose relentless fury destroys everything it touches, screaming, shrieking, howling hideously along, no friendly wood or elevation to check its appalling force and power; the cars rock to and fro; the wind searches every crack and cranny, and the fine snow sifts as through a thousand pores. Face it! See how quick the tender flesh reddens and the cheeks tingle and smart as the snow, frozen into finest powder and each kernel the point of a needle driven at a velocity of seventy miles per hour, strikes against them! Gust after gust whistles by, and the great rush of the storm is like the tremendous tumult of an alpine avalanche. It roars and tears along the livelong night without abatement, each successive gust coming with continuous fierceness, and as it whirls by another takes its place, filling the great void around with deafening sounds.

"Here we are! and what a prospect for reaching Fargo!

"The morning breaks. The sun rises, but it is not the sun of Australia. The winds are lulled; the cold is intense. Notwithstanding all this, savory odors of steak and coffee come from the commissary departments, and we are safe. The storm has spent its fury. Superintendents Towne and Lewis are equal to the emergency. A reserve plow and pusher is ordered up from Jamestown, and we move forward to meet them. Everything is in order, snow and all; men work eagerly, engines run lively at drifts, the weather moderates, the snow flies before the plows, and at 4 p. m. we meet the outgoing plow near Crystal Springs, and reach Jamestown at dark.

"Tuesday morning the expedition moves on Fargo, and find the cuts all full; but, after a day's hard fight, reach the latter



Published Every Saturday.

CONDUCTED BY

S. WRIGHT DUNNING AND M. H. FORNEY.

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Editorial Announcements.

Passes.—All persons connected with this paper are forbidden to ask for passes under any circumstances, and we will be thankful to have any act of the kind reported to this office.

Addresses.—Business letters should be addressed and drafts made payable to THE RAILROAD GAZETTE. Communications for the attention of the Editors should be addressed EDITOR RAILROAD GAZETTE.

Advertisements.—We wish it distinctly understood that we will entertain no proposition to publish anything in this journal for pay, EXCEPT IN THE ADVERTISING COLUMNS. We give in our editorial columns OUR OWN OPINIONS, and those only, and in our news columns present only such matter as we consider interesting and important to our readers. Those who wish to recommend their inventions, machinery, supplies, financial schemes, etc., to our readers can do so fully in our advertising columns, but it is useless to ask us to recommend them editorially, either for money or in consideration of advertising patronage.

Contributions.—Subscribers and others will materially assist us in making our news accurate and complete if they will send us early information of events which take place under their observation, such as changes in railroad officers, organizations and changes of companies, the letting, progress and completion of contracts for new works or important improvements of old ones, experiments in the construction of roads and machinery and in their management, particulars as to the business of railroads, and suggestions as to its improvement. Discussions of subjects pertaining to ALL DEPARTMENTS of railroad business by men practically acquainted with them are especially desired. Officers will oblige us by forwarding early copies of notices of meetings, elections, appointments, and especially annual reports, some notice of all of which will be published.

VENTILATION OF CARS.

By the universal consent of society, mankind are permitted to talk about the weather whenever two people meet each other. We will not undertake an analysis of the reasons why this subject is always in order, but will assume that this common consent must have some sufficient ground for its existence. Now ventilation might be defined as indoor weather, and therefore the same inherent right must exist for its discussion at all times, with those who are the inhabitants of that especial portion of indoors to which our remarks refer.

We have felt it necessary and prudent to make this excuse or rather justification for ourselves before introducing this subject again to our readers, which has been discussed so much but is practiced so little.

The great difficulty in the way of securing good ventilation, as any one who undertakes to improve it will soon find out, is the general indifference in regard to it. The average American voter, or foreign naturalized citizen is as deficient in appreciation of the difference between pure and impure air as he is of the literary merits of say George Eliot's novels compared with the blood-and-thunder style of literature. In fact, he rather prefers a high temperature, both for the books he reads and the atmosphere he breathes. If, therefore, cars are to be ventilated well, it must not depend on the agency of ordinary travelers.

The history of the practice of ventilation affords a curious example of the difficulty of introducing into ordinary minds more than one idea at a time. Comparatively little effort is required to make it understood that the air breathed or exhaled from the lungs is impure, and should be permitted to escape. Therefore nearly all cars are provided with openings at the top for the escape of this air. But air is to most people an impalpable or rather immaterial substance—if such a thing could be—and not perceptible to the senses; and therefore when they provide the means for the escape of the air they seldom ask themselves what is to fill the space which was occupied by that which escaped, or how a supply of fresh air is to come in. For some years, therefore, we have directed attention to the importance of providing cars with some means of admitting a supply of fresh air, especially in winter, when there is usually more trouble from the impurity of the atmosphere than at other seasons. The method by which it is done we have regarded as of less importance

than that the principle should be distinctly recognized by all those who have the charge of cars. Besides, to oppose any plan in existence which has been employed by any one, usually results in exciting opposition; whereas abstract principles are not the possession of any individual, are unpatentable, and cannot be offered for sale; while exhaust ventilators are a commodity which dealers are interested in selling, and the more they sell the better they are pleased. It is not surprising, therefore, that cars are generally liberally supplied with whole rows of them, whereas supply ventilators are so much more simple that there "is little money in them," and therefore they have received much less attention.

Perhaps few people realize how great the educational influence of patentees, manufacturers and dealers is in the community. A patentee of an invention which is really valuable must have studied the subject to which his patent refers much more carefully than persons who have not directed special attention to it. The inventor is therefore competent to instruct those who have not devoted as much time as he to such an investigation. If he is anxious to introduce his invention, as usually happens, he will use every opportunity to explain and describe the matter to those who are or should be interested in it. The same thing is true of a manufacturer or dealer in a really good article. He instructs those who use such things in the principles on which they act, and their methods of construction and operation. Now we believe it is largely because supply ventilators have not had the aid of this sort of apostleship that they are not more generally used. If some manufacturer had a good patented supply ventilator from which he could make more money than from exhaust ventilators, doubtless he would explain and recommend its use in season and out of season; but up to the present time there has been more money in exhaust ventilators than in those for supplying air, and therefore the merits of the latter are not so generally known.

Several years ago our attention was called to the fact that by raising the end window in a car in front of the stove, and putting the blind down, a plentiful supply of fresh air would enter under ordinary circumstances, and that the current of cold air would be directed upward, by the inclination of the slats of the blind, so that on entering it would mingle with the hot air which ascends around the stove, and thus the current of cold air would not produce any discomfort and, in fact, be imperceptible to passengers. We therefore recommended the printing of a card with the following inscription:

TO VENTILATE THE CARS.

Raise the Front Window Next to the Stove and Let Down the Blind. This recommendation was adopted by Maj. E. T. D. Myers, General Superintendent of the Richmond, Fredericksburg & Potomac Railroad, and in a letter some time afterward, which was published in the *Railroad Gazette*, he stated that the plan worked very satisfactorily. We have recently received the following letter from him regarding this subject, which will doubtless interest those readers who can distinguish between pure and impure air:

TO THE EDITOR OF THE RAILROAD GAZETTE:

"To ventilate the car raise the front window next to the stove and let down the blind."

The above was your advice several years ago. It was acted upon here. The relief was great and passengers do not encounter any cold draught. It is still the rule.

Since that time many sermons have been preached on the subject, but never upon the same text. There must be some good reason for this. Will you be kind enough to say whether the doctrine was unsound, and if so, wherein lay the defect?

E. T. D. MYERS.

Now we admit the justice of Mr. Myers' very gentle reproach. The doctrine, so far as we know about it, is not unsound; but like some of those very simple and wholesome lessons which we learn in our youth, we have, perhaps on account of its simplicity, not regarded it as of as much importance as its value merits. Soon after promulgating it, the objection was made to the plan that dust is liable to enter at the window. This objection we were inclined to believe somewhat imaginary, but as a plan had been adopted on the Boston & Albany Railroad of placing a ventilator above the end windows, it was thought that the objection referred to, if it had any force, would be met by placing the ventilator in that position. It was also found on that road that the ventilators, owing to the indifference of the passengers to the quality of the fresh air they breathed, or their ignorance of the purpose for which they were intended, were never or seldom opened. The following inscription was, therefore, painted on them:

"IF YOU WANT TO BREATHE PURE AIR KEEP THIS VENTILATOR OPEN."

The door which closes the aperture of the ventilator, it should be mentioned, consisted of a sash, glazed with a pane of ground glass, so that the letters painted on the glass could easily be read in any part of the car. This inscription is now cut in colored glass. The influence was, however, most salutary, and had the effect of teaching every man, woman and child who could read, first, that if the ventilator was not open the air would be impure, and, second, it taught them the use of the ventilator and to

some degree at least that it was important that it should be kept open. Although this inscription, or one equivalent to it, is an essential part of such ventilators, we have found it impossible to impress its importance on car-builders or railroad managers generally. We therefore hoped to get the assistance of the commercial traveler in educating the railroad men, and we therefore recommended some of our enterprising supply houses to manufacture a ventilator of this kind and offer it for sale. Thus far none of them have acted on the suggestion, and we fear that we will finally be obliged to go into the supply business ourselves, if we want to introduce this reform.

Another plan for supplying ventilation is that which was devised and we believe patented by Mr. Garey, Superintendent of Cars of the New York Central & Hudson River Railroad, and the Messrs. Howard, of Hartford. This is used on the Pennsylvania Railroad to a greater extent than anywhere else, but is not easily applied to old cars. The plan does not seem to have been "pushed" as much as its merits deserve. We are half inclined to believe that it is because the Messrs. Howard found the sale of their old form of exhaust ventilators, which are placed on the sides of the clear-story, more profitable than the introduction of the later plan, which to a considerable makes the old exhaust ventilators useless.

On some roads the doors in the cars have sliding windows, by which fresh air is admitted; but the cold draft of air is often objectionable, as it is low enough to come in contact with the persons of passengers and is not immediately in front of the stove so as to mingle with the warm air as it enters the car.

It will be seen from these brief descriptions that each of these plans, excepting the one first referred to, requires some special means for the purpose, whereas ventilating by the front window can be done without any cost and with the means already provided on nearly all cars. Therefore, after receiving Mr. Myers' letter, we wrote to him asking what regulations he adopted in order to have this method of ventilation put into use, and also about the admission of dust. To these inquiries he answered as follows:

"We have no rule or regulation for ventilation, except a card (which we posted at first, but which is no longer necessary), with the words: 'To ventilate the car, raise the sash and let down the blind' printed on it. I believe little more dust can enter here than higher up. Have heard no complaints on that score. We are not often troubled with dust at a time when this ventilation is needful. The blinds do not in most cars let down close upon the window sill. We make ours to do so."

It will be seen from the above that this method of ventilating cars, which Mr. Myers says works satisfactorily, was introduced at no other expense than that of printing and posting the cards, with a few words of direction to conductors and brake men. We do not say that the plan is the best possible, but it is certainly the cheapest, and our readers have the testimony above of the General Superintendent of the road on which it is used as to its efficiency. It should be observed, however, that an essential element in the adoption of this plan is the notice which is posted up. It will avail little in securing good ventilation if a railroad manager or car builder is acquainted with the abstract truth that a car can be ventilated by opening the end window and closing the blind, if the windows never are opened. What must be aimed at is that the windows shall be opened, and the notices referred to are for that purpose.

IOWA RAILROAD LAWS.

Two years ago the Iowa Legislature passed a law restricting the rates of fare and freight on railroads within the State. It was one of the crudest laws ever passed in a civilized country. Schedules of "reasonable maximum rates" were established, and the method of making these schedules deserves to be chronicled in the annals of labor-saving machines and devices. The schedules prepared by the Illinois Railroad Commissioners were taken, reduced an even percentage (one-tenth, we believe); and behold the legal Iowa rates! Illinois roads have a very much heavier traffic than Iowa roads; indeed, they can almost be said to have all the Iowa traffic besides what they get east of the Mississippi; but the Iowa legislators wished to make sure that the rates should be low enough.

Iowa, however, is a state of farms, not of merchants and manufacturers. Its people send most of their produce to Chicago or further east to sell, and buy their goods where they sell their produce. By far the largest part of the traffic of the State begins or ends its journey out of the State; is not State traffic but inter-State traffic. Now State laws are not valid out of the State which makes them; and while the Iowa law might reduce the rates on shipments from Des Moines to Davenport, it could not prevent the railroad company making up for this reduction by an increase in the charge from Davenport to Chicago.

Iowa is a great way from the markets for its chief products, at least its Western counties are; and the farmers in the distant counties are for the most part poor, comparatively new settlers who have not yet been able to stock

their farms with hogs, cattle and sheep, which require less transportation in proportion to value; and are slowly making their way towards independence by raising grain. To carry grain 1,400 miles to market, as much of the Iowa grain is carried, costs a good deal at best, and when corn is low in Chicago a reasonably remunerative rate for transportation from points near the Missouri absorbs nearly the whole price received for the grain. The railroad companies, all of which are greatly interested in the growth of the country, while some have large land grants in the western half of the State, were accustomed to charge much less per mile for the great distances than for the short ones. The rate on corn to Chicago has been sometimes, we believe, the same from all stations from the Missouri nearly to the Mississippi, some being 200 and some nearly 500 miles from Chicago. The law couldn't affect these rates; but when the local rates were reduced by the law, the companies were able to make up the loss by increasing the charges to Chicago. Any such policy would tax the western part of the State for the losses caused by the reduction in local rates in all parts of the State; reductions which must have benefited the eastern part of the State, where is the chief part of the population and local traffic, many times more than the western part. Not all the roads pretended to conform to the law, but most of the leading ones did, at least in its leading features, with the result, probably, that the State suffered while the roads made for the time about their usual earnings, and were injured only or chiefly through the injury to those who were or would have been their patrons. In a young and growing State like Iowa, the railroad companies have an extraordinary interest in the prosperity of the country. Most of them make no returns to their stockholders as yet, and they never can be expected to do so until the country is better peopled and a larger proportion of the land cultivated. But the growth of the country in population and production depends entirely on the profitability of agriculture. If money can be made rapidly by farming, the State will soon fill up with people, who will produce great quantities of grain and stock, which will afford a heavy traffic for the railroads. The latter, therefore, actually suffer by whatever lessens the general prosperity of the State, though it be a railroad law under which they can keep up their profits. In such a community, to remain stationary is equivalent to a decline in an old State, and railroad proprietors have motives for desiring the prosperity of their customers which have very much less force where the land is all occupied and production cannot be greatly increased.

Like nearly all laws of the kind, then, the Iowa law was irregular in its effects. It made transportation cheaper for some and dearer for others, upset in some degree the established order of things, and naturally became unpopular with those who suffered from it, and these seemed to be numerous enough to make an impression on the public and the politicians, so that it was thought that at the late session of the Legislature the law would be modified essentially, or perhaps repealed. But the debates in the Legislature showed how difficult it is for such a body to treat such a question rationally and justly. The absence of any considerable number of railroad owners in Iowa prevented the development of the strong feeling usually caused by a striking injustice to one's friends and neighbors. The effect of the law on the owners of railroads received very little attention. The railroad owners do not live in Iowa, have no effect on Iowa public opinion, and do not vote for members of the Iowa Legislature. Perhaps there is no prejudice against them on this account, but the result is that their interests receive little attention, while the conflicting interests of Iowa shippers receive a great deal.

This was shown by a proposition made last winter to change the law and to class branches of a road separately from the main line, so that higher rates might be charged on those with light traffic than on a main line with heavier traffic. The very basis of the law assumes the justice of this. By its terms, the company with the smallest earnings per mile may charge the highest rates. A new road 20 miles long may be built with barely traffic enough to sustain one mixed train daily. The company owning it, if it has no other road, may charge the highest rates recognized by the law. But if it should sell this road to a company owning a road whose earnings place it in the "first class," the rates would have to be reduced perhaps more than one-half in a day. The natural tendency is for the old railroad companies to construct the new branches needed; they know best what the traffic will be, have the best credit, and usually are able to do the work cheaper than a newly-organized company. They are urged most earnestly by towns desiring railroad outlet to build such branches. The people on the proposed line might perhaps easily afford to pay four times the main-line rates rather than haul in wagons, as they will have to do without the branch; yet the law will not permit the construction of the road on these terms. A new company may charge a high rate, probably the only rate which will justify the construction of the road; the old company may only charge a low rate.

When the bill providing for what we may properly call

equality among railroad owners was introduced into the Iowa Legislature, the influence of the comparatively small number of people using these branches was sufficient to defeat it. These people formed a part of the community and could make themselves felt, and the manifest justice of the case of the absent and uninfluential railroad owners seemed to weigh nothing in opposition.

The final result on a question which absorbed much of the attention of the session was the leaving of the law unchanged. Nothing could be carried which offered anything like justice to the railroads, and those who favored such bills joined in defeating the substitutes which pretended to make concessions while actually affording no relief.

There was developed, however, a considerable opposition to the law and to the principle of the law, which made itself heard; and this is a favorable sign. Too often, in Western States, those who oppose such legislation feel compelled to conceal their true opinions and base their opposition on some immaterial question of detail. They seem unwilling to confess that they believe that railroad owners have rights, and that it is their duty to protect these rights as well as those of farmers. When once this is acknowledged by any considerable part of a Legislature railroad laws will not be made so recklessly.

Record of New Railroad Construction.

This number of the *Railroad Gazette* has information of the laying of track on new railroads as follows:

Chester & Lenoir.—Track is laid (of 3-foot gauge) from the Atlanta & Richmond Air Line crossing at Gastonia south to Crowder's Creek, S. C., 9 miles.

Atlantic & Lake Erie.—Completed from New Lexington, O., to Perry County coal field, 8 miles.

This is a total of 17 miles of new railroad, making 302 miles completed in the United States in 1876, against 120 miles reported for the same period in 1875.

LAKE NAVIGATION is expected to open early, and many vessels have already contracted for cargoes, but generally, so far as reported, on private terms. It seems to be expected that rates will not be quite so low as last year, though still very low. From Saginaw to Chicago vessels demand \$2.50 per thousand for lumber and 18 cents per barrel for salt. At Marquette, shippers offer \$1.75 per ton for ore to Cleveland, and \$1.40 from Escanaba to Cleveland. There is a large stock of coal at Buffalo waiting to go forward, and there is now a prospect of a fair cut of logs in the lumber regions, where the weather was generally unfavorable the last winter. There are in Chicago vessels with capacity for 3,720,000 bushels of grain, which is less by 1,250,000 than last year, while the grain in store is within 354,000 bushels of last year's stock. About a million bushels are afloat in Milwaukee, and 2,000,000 more in store than at this time last year. Much more grain was carried by rail during the past winter than last year, however, and navigation is expected to open about three weeks earlier, so that there will be more time for doing the season's business. The railroads west of Chicago are interested in having lake rates as low as possible; those east and especially those crossing Illinois south of Chicago do best when lake rates are very high. There is hardly any possibility that they will be high this year, however: the question is, how low will they be? The business last year and the year before was unprofitable, and the vessel owners are very anxious to make some profit in 1876; but the stock of vessels exceeds the demand so long as the lumber and iron ore traffic remains light.

FEBRUARY EARNINGS are given in our table for 21 roads, and all but one show an increase over last year, and in most cases the increase is very large, the aggregate being 21½ per cent., while the increase in mileage is but 3½ per cent. In this case, the receipt per mile does not afford an accurate basis for comparison, as the month was a day longer this year. The receipts per mile per day, however, will give such a basis. They were \$16.27 this year and \$14.64 last, the increase of \$1.63 per mile being at the rate of 11 per cent. This is a large increase, and is probably accompanied by a still larger increase of net earnings, as the month has been a favorable one for working, while February of last year was one of the worst imaginable. The mileage reporting for the month is about one-sixth of the total in the country. It is not at all evenly distributed. Eighteen of the 21 roads are west of Cincinnati and Chicago, only one east of Buffalo, and none south of the Ohio and east of the Mississippi.

For the two months ending with February also 21 railroads report, and all but one show an increase, which is, in earnings, per mile at the rate of 11.9 per cent., or, in earnings per mile per day, just 10 per cent. The traffic in many staples has been very large, probably the largest ever known at this season, and though the rates have been low, still, with the favorable weather, there must have been a reasonable profit on most of the business.

NEW PUBLICATIONS.

Map of the Lake Shore & Michigan Southern Railway.—A few weeks ago we spoke of the maps published and circulated by railroad companies in soliciting business as "devoted largely to the conveyance of misinformation." Now comes this map of the Lake Shore road like a rebuke. Two qualities it has in an extraordinary degree: truthfulness and clearness, two of the prime qualities of a good map. It is not intended as a map of the country through which the road runs, but primarily of the road alone and its connections. Drawn on a scale of eight miles to the inch, and only just large enough to include the road and all its branches with a few miles of the connecting

lines at its extremities, it covers a sheet of 20x30 in. within the border lines. In this space all the railroads are given and given accurately, but only on the Lake Shore are all the stations given. That road is represented by a blue line. At each station figures on one side of the road indicate the distance from Chicago, on the other the distance from Buffalo. These figures are printed at right angles to the road and are underlined. Between stations reading parallel with the road other figures give the distances between adjacent stations. All these figures are in blue, like the road. The other railroads are in vermilion. The stations and names of stations on the Lake Shore road are in black, as are the general geographical features, so far as they are indicated; but the stations on the other roads and their names are in vermilion, like the roads themselves.

The advantage of the colors in giving clearness is immense. Every road is as distinct as if there were no other line on the map, and the prominence of the Lake Shore in the network of other roads is perfectly secured by its different color.

We especially commend this map to those gentlemen who prepare advertising maps representing their own road as a broad black line extending straight from terminus to terminus, while all competing roads are shown to be horribly zigzag. Perhaps they will not be able to understand why in this map not only are all the meanderings of the Lake Shore faithfully given, but also all the directness of rival lines, and, moreover, the name of the competing road is given also. That any company can suffer by such truthfulness we do not believe. A policy of misrepresentation is not more likely to succeed in railroad business than in any other business which continues. On the other hand, any intelligent, reasonable man is likely to get a favorable impression from a map so frank and evidently truthful, aside from that conveyed by its clearness, which makes it helpful to a remarkable degree.

The map, doubtless, has a special value to the employees of the road, and it was, perhaps, chiefly for their use that it was prepared. It bears the name of Mr. Charles Collins, the Chief Engineer of the road, and is excellently lithographed by Clay, Cosack & Co., of Buffalo.

We desire to call especial attention to the use of colors in a map of this kind. It may be made even more valuable on more detailed maps. In these when everything is in black and white it is almost impossible to avoid confusion. Names, streams, roads and boundaries interlace each other, and the examiner often is unable to ascertain to what particular town or feature a given name belongs. This is much simplified by the use of colors. It costs more to print in two or more colors, it is true; but for many purposes the advantage is worth more than it costs.

General Railroad News.

ELECTIONS AND APPOINTMENTS.

Revere & Everett.—The officers of this new company are: Ensign Kimball, President; James O. Young, Clerk; Wm. T. Hall, Treasurer.

St. Louis, Iron Mountain & Southern.—At the annual meeting in St. Louis, March 8, the following directors were chosen: Thomas Allen, Wm. R. Allen, Gerard B. Allen, S. D. Barlow, Sylvester H. Ladin, St. Louis; J. M. Loughborough, W. M. Rose, Little Rock, Ark.; John Bigelow, Joseph S. Lowrey, Henry G. Marquand, George S. Morison, Wm. H. Swift, George C. Ward, New York. The new directors are Messrs. Lowrey and Morison, who replace R. B. Minton and W. T. Blodgett.

Cairo & Vincennes.—Mr. George Nelson has been appointed Master of Transportation. He has been a conductor on the road some time.

Buffalo & Jamestown.—At the annual meeting in Buffalo, N. Y., March 14, the following directors were chosen: James Adams, Abraham Altman, Chilion M. Farrar, Lemuel S. Jenks, Orsino E. Jones, Henry Martin, Wm. H. H. Newman, George R. Potter, James D. Sawyer, James N. Scatcherd, Solomon Scheu, Richard J. Sherman, Charles A. Sweet. The board elected James N. Scatcherd, President; James Adams, Vice-President; Abraham Altman, Treasurer; John A. Campbell, Secretary.

Louisville, Harrods Creek & Westport.—Dr. G. W. Burton has been elected President and Alfred Whitman General Superintendent.

Kingsbridge & Yonkers.—This company was organized in New York, March 14, by the election of the following directors: N. H. Decker, Nicholas F. Palmer, W. Jr., M. Caleb, James W. Quintard, George W. Quintard, Walter Stanton, T. C. Campbell, S. G. Courtney, Thomas L. Raymond, Samuel Conover, Richard Schell, New York; J. H. Godwin, Kingsbridge, N. Y.; H. B. Henson, Saratoga, N. Y. The board elected N. H. Decker, President; H. B. Henson, Vice-President; Samuel Conover, Secretary and Treasurer.

Fall River, Warren & Providence.—At the annual meeting in Warren, B. I., March 13, the following directors were chosen: Benjamin Finch, Newport, R. I.; John S. Brayton, T. J. Borden, Fall River, Mass.; Ephraim N. Winslow, Hyannis, Mass.; Charles F. Choate, Onslow Stearns, Boston. The road is controlled by the Old Colony Company.

Columbus & Mineral Valley.—At a meeting held in Columbus, O., March 14, the following directors were chosen: J. M. Pugh, R. F. Burt, P. Hess, D. W. Caldwell, John C. English, Lorenzo English, F. C. Sessions, Theodore Leonard, Samuel Thomas.

Atlantic & Pacific.—Mr. C. W. Rogers has been appointed General Superintendent, in place of A. A. Talmage, removed by the receivers. Mr. Rogers has been General Purchasing Agent.

Wisconsin Midland.—At the annual meeting in Oshkosh, Wis., March 15, the following officers were chosen: President, C. N. Paine, Oshkosh, Wis.; Vice-President, A. B. Hamilton, Ripon, Wis.; Secretary, Dr. S. A. Pease, Montello, Wis.; Treasurer, K. M. Hutchinson, Oshkosh, Wis.

St. Louis, Hannibal & Keokuk.—At the annual meeting in Hannibal, Mo., March 8, the following directors were chosen: Geo. Green, W. W. Walker, S. P. Wisner, J. T. Ely, J. W. Barrett, Walter Perkins, David T. Wadd, S. B. Woolfelt, N. S. Dimmitt, Wm. Buchanan, W. B. Elliott, J. D. Pitt, Stephen J. Reynolds.

St. Louis, Keokuk & Northwestern.—At the annual meeting recently the following directors were chosen: Guy Wells, Keokuk, Ia.; L. W. Morse, Hannibal, Mo.; John O. Roberts, Clarksville, Mo.; George Edmunds, Jr., Caribage, Ill.; W. H. Harris, Decatur, Ill.; S. C. Baldwin, Cleveland, O.; A. B. Stone, H. B.

Blood, New York. Mr. Blood is a new director, there being one more than last year. The board re-elected George Edmunds, Jr., President; A. B. Stone, Vice-President and Treasurer; H. B. Blood, Secretary.

Peoria & Rock Island.—The new board of directors has elected the following officers: President, R. G. Ingersoll; Vice-President, B. E. Smith; Secretary and Treasurer, C. P. James.

Philadelphia & Reading.—At a meeting of the board in Philadelphia, March 15, Mr. Isaac Hinkley was elected a director in place of Robert B. Cabene, deceased. Mr. Hinkley is President of the Philadelphia, Wilmington & Baltimore Company.

New Hampshire Railroad Commissioner.—Mr. W. A. Pierce, the Republican candidate, has been elected to this office.

Michigan Central.—Mr. J. A. Grier has been appointed Assistant General Freight Agent. He has been for some time Division Freight Agent on the Pittsburgh, Cincinnati & St. Louis.

American Society of Civil Engineers.—The February number of the *Journal of the Society* (it is no longer called the "Transactions") gives the following additions to the list of members: Henry D. Blunden (Junior), Assistant Engineer Erie Railway, New York; Charles G. Darach, Assistant Engineer Philadelphia Water Department, Philadelphia; James K. Ford, Chief Engineer Rome, Watertown & Ogdensburg Railroad, Oswego, N. Y.; Alphonse Fletley, Resident Engineer Boston Water Works, South Framingham, Mass.; Rudolph Hering, Assistant City Engineer, Philadelphia; Albert B. Hill (Junior), Assistant City Engineer, New Haven, Conn.; Thomas John Long (Junior), Assistant Engineer Department of Docks, New York; Peter A. Peterson, Chief Engineer Water Works, Toronto, Canada; Ernest Pontzen (Corresponding member) Consulting Civil Engineer, Vienna, Austria; Julius H. Sriedinger, Assistant United States Engineer, No. 33 West Houston street, New York.

Pittsburgh, Cincinnati & St. Louis.—Mr. Daniel T. McCabe is appointed Division Freight Agent of this company, in charge of the Second and Third Columbus, Chicago & Indiana Central divisions, with headquarters at Logansport, Ind., in place of J. A. Grier, resigned. The divisions under his charge are from Chicago to Bradford Junction, and from Richmond to State Line.

Indianapolis & Sullivan.—This company has been fully organized by the election of the following directors: C. W. Thompson, J. M. Booth, Hiram Teters, Bowling Green, Ind.; J. W. Rheas, Ellison Kiger, Eminence, Ind.; A. D. Lindley, Wm. B. Thompson, Monrovia, Ind.; R. C. King, Jordan, Ind.; E. W. Pritchett, Cataract, Ind.; Jefferson Wooden, Hall, Ind.; Eli J. Sumner, Mooresville, Ind. The board elected C. W. Thompson President; Wiley Hazard, Indianapolis, Secretary; Eli J. Sumner, Treasurer.

Atlantic & Lake Erie.—Mr. John Thompson has been appointed Superintendent and Master Mechanic, with office at New Lexington, O. Mr. Thompson has been Master Mechanic in charge of the Crestline shops, Pittsburgh, Fort Wayne & Chicago, for the past 17 years.

Pennsylvania & Delaware.—At the annual meeting in Philadelphia, March 21, the following directors were chosen: A. C. Harmer, Strickland Kneass, F. P. Wickoldson, Charles Wieler, George W. Smith, J. B. Broomall, William Reybold, W. D. Clark, S. M. Curtis. The board elected Strickland Kneass, President, and Walter D. Mitchell, Secretary.

Quincy, Missouri & Pacific.—At the annual meeting in West Quincy, Mo., March 7, the following directors were chosen: Henry Root, C. H. Bull, A. Green, T. Jasper, T. Redmond, C. M. Pomeroy, D. Paulin, George Bond, J. M. de France, E. M. Miller, John Wheeler, J. T. Sawyer, E. V. Wilson. At a meeting held March 15 the board elected Henry Root President and C. H. Bull Treasurer. Mr. J. R. Buchanan was re-appointed Superintendent.

TRAFFIC AND EARNINGS.

Railroad Earnings.

Earnings for various periods have been reported as follows:

Year ending Nov. 30:	1874-75.	1875-76.	Inc. or Dec.	P. c.
Mobile & Montgomery.....	\$590,890	.....	.....	.....
Expenses.....	428,394	.....	.....	.....
Net earnings.....	\$166,496	.....	.....	.....
Earnings per mile.....	5,338	.....	.....	.....
Per cent. of expenses.....	71.77	.....	.....	.....
Year ending Dec. 31:	1875.	1876.	Inc. or Dec.	P. c.
Camden & Atlantic.....	\$548,493	\$529,887	Inc. \$18,606	3.5
Expenses.....	340,861	288,140	Inc. 52,721	18.3
Net earnings.....	\$207,632	\$241,747	Dec. \$34,105	14.1
Earnings per mile.....	8,186	7,909	Inc. 277	3.5
Per cent. of expenses.....	62.11	64.38	Inc. 2.27	14.2
Quincy, Missouri & Pacific.....	\$130,612	\$107,151	Inc. \$23,461	21.9
Expenses.....	90,466	90,665	Dec. 199	0.2
Net earnings.....	\$40,156	\$16,486	Inc. \$23,670	143.5
Earnings per mile.....	1,866	1,531	Inc. 335	21.9
Per cent. of expenses.....	69.27	84.62	Dec. 15.35	18.1
Six months ending Feb. 29:	1875.	1876.	Inc. or Dec.	P. c.
Central of Georgia.....	\$1,825,412	.....	.....	.....
Expenses.....	876,269	.....	.....	.....
Net earnings.....	\$949,143	.....	.....	.....
Earnings per mile.....	2,576	.....	.....	.....
Per cent. of expenses.....	48.00	.....	.....	.....
Month of January:	1876.	1875.	Inc. or Dec.	P. c.
Louisville, Paducah & B. W. Paducah & Memphis.....	\$37,946	\$31,557	Inc. \$7,389	24.1
Expenses.....	21,502	16,248	Inc. 5,254	41.2
Net earnings.....	\$16,444	\$15,309	Inc. \$1,135	7.4
Earnings per mile.....	\$6,919	\$6,625	Inc. \$294	4.4
St. Louis, Iron Mt. & So.	88,200	72,287	Inc. 15,913	22.1
Second week of March:	1876.	1875.	Inc. or Dec.	P. c.
Michigan Central.....	\$187,309	\$130,938	Inc. \$56,371	4.9
St. Louis, Iron Mt. & So.	87,400	65,702	Inc. 21,698	33.0
St. Louis, Kan. City & N.	83,267	66,763	Inc. 16,504	24.7
Week ending Feb. 24:	1876.	1875.	Inc. or Dec.	P. c.
Great Western.....	\$15,267	\$16,972	Dec. \$1,705	10.0
Week ending Feb. 26:	1876.	1875.	Inc. or Dec.	P. c.
Grand Trunk.....	\$28,800	\$27,200	Inc. \$1,600	4.3

East-Bound Rates.

By the tariff which went into effect March 20, rates from Chicago to New York (rates from other Western towns in proportion) are as follows, in cents per hundred pounds:

Chicago to New York.	Rate.
First class.....	\$1.50
Second class.....	1.10
Third class.....	0.85
Fourth class.....	0.45
Seeds.....	0.05
Grain.....	0.40
Boxed and cured meats.....	0.50
Dressed hogs and beef.....	0.70

The changes from the tariff of March 1 a reduction of the fourth-class rate from 50 to 45 cents, of bulk meat from 55 to 50, and of seeds from 60 to 55. More important, however, is a change in classification, by which the following articles in full car-load will be taken at the bulk grain or lowest rate, viz.: Grain, shorts and malt in sacks; beef and pork product in bar-

RAILROAD EARNINGS IN FEBRUARY.

Name of Road.	Mileage.					Earnings.					Earnings per mile.	
	1876.	1875.	Inc.	Dec.	P. c.	1876.	1875.	Increase.	Decrease.	P. c.	1876.	1875.
Calo & St. Louis.....	146	116	30	.....	25.9	\$18,872	\$13,392	\$5,480	.....	40.9	\$129	\$116
Canada Southern.....	452	452	.....	.....	.....	141,161	41,501	99,660	.....	240.1	312	92
Central Pacific.....	1,315	1,293	22	.....	1.7	1,000,000	906,159	93,841	.....	10.4	760	701
Chicago & Alton.....	650	650	.....	.....	.....	34,028	328,219	14,809	.....	4.5	528	505
Chicago, Milwaukee & St. Paul.....	1,399	1,399	.....	.....	.....	518,000	323,273	194,727	.....	60.2	370	231
Cincinnati, Lafayette & Chicago.....	75	75	.....	.....	.....	36,022	27,405	8,617	.....	33.5	486	365
Denver & Rio Grande.....	120	120	.....	.....	.....	29,028	32,070	5,042	.....	28.1	247	197
Hannibal & St. Joseph.....	296	296	.....	.....	.....	157,184	116,286	40,898	.....	35.2	531	393
Illinois Central.....	1,109	1,109	.....	.....	.....	608,126	481,681	126,445	.....	26.2	548	434
Indianapolis, Bloomington & Western.....	344	344	.....	.....	.....	142,649	96,824	45,825	.....	47.3	415	281
International & Great Northern.....	458	458	.....	.....	.....	118,020	112,500	5,520	.....	5.4	259	246
Kansas Pacific.....	761	761	.....	.....	.....	205,509	202,025	3,484	.....	1.5	270	265
Michigan Central.....	804	804	.....	.....	.....	548,669	441,623	107,046	.....	24.2	682	549
Missouri, Kansas & Texas.....	786	786	.....	.....	.....	254,723	204,540	50,183	.....	24.5	324	260
Ohio & Mississippi.....	615	393	222	.....	56.5	293,939	248,180	45,759	.....	28.1	478	332
Rome, Watertown & Ogdensburg.....	333	218	115	.....	52.8	75,957	68,892	7,065	.....	29.1	228	270
St. Louis, Alton & Terre Haute—Belleville Line.....	71	71	.....	.....	.....	38,688	55,727	.....	\$17,039	30.6	545	785
St. Louis, Iron Mountain & Southern.....	685	685	.....	.....	.....	312,500	281,912	30,588	.....	10.9	456	412
St. Louis, Kansas City & Northern.....	504	504	.....	.....	.....	284,289	196,165	88,124	.....	44.9	564	389
Toledo, Peoria & Warsaw.....	237	237	.....	.....	.....	112,240	61,809	50,431	.....	81.6	474	261
Union Pacific.....	1,032	1,032	.....	.....	.....	623,000	620,307	2,693	.....	1.2	609	601
Totals.....	12,192	11,803	389	.....	3.3	\$5,867,504	\$4,842,620	\$1,024,884	\$17,039	21.2	\$482	\$410
Total increase.....	.....	.....	389	.....	3.3	.....	.....	1,024,884	.....	.....	.....	.....

RAILROAD EARNINGS, TWO MONTHS ENDING FEBRUARY 29.

Name of Road.	Mileage.					Earnings.					Earnings per mile.				
	1876.	1875.	Inc.	Dec.	P. c.	1876.	1875.	Increase.	Decrease.	P. c.	1876.	1875.	Inc.	Dec.	P. c.
Calo & St. Louis.....	146	116	30	.....	25.9	\$40,663	\$29,374	\$11,289	.....	38.4	\$279	\$253	\$26	.....	10.3
Canada Southern.....	452	452	.....	.....	.....	128,989	135,913	.....	108.4	5.6	2.5	3.1	.....	108.4	.....
Central Pacific.....	1,315	1,293	22	.....	1.7	1,961,000	1,870,307	90,693	.....	4.9	1,491	1,446	45	.....	3.1
Chicago & Alton.....	650	650	.....	.....	.....	648,625	644,147	4,478	.....	0.7	928	937	.....	.....	0.1
Chicago, Milwaukee & St. Paul.....	1,399	1,399	.....	.....	.....	1,045,000	789,374	255,626	.....	32.4	747	564	183	.....	32.4
Cincinnati, Lafayette & Chicago.....	75	75	.....	.....	.....	88,878	61,200	27,678	.....	12.5	914	816	102	.....	12.5
Denver & Rio Grande.....	120	120	.....	.....	.....	44,034	44,034	.....	.....	43.5	527	367	160	.....	43.5
Hannibal & St. Joseph.....	296	296	.....	.....	.....	300,162	210,818	89,344	.....	42.4	1,011	712	302	.....	42.4
Illinois Central.....	1,109	1,109	.....	.....	.....	1,191,573	1,072,712	118,861	.....	11.5	1,079	967	112	.....	11.5
Indianapolis, Bloom. & West'n.....	344	344	.....	.....	.....	270,035	233,366	36,669	.....	29.4	802	620	182	.....	29.4
International & Gt. Northern.....	458	458	.....	.....	.....	260,066	235,075	24,991	.....	10.6	568	513	55	.....	10.6
Kansas Pacific.....	761	761	.....	.....	.....	413,548	371,556	41,992	.....	11.2	54	489	.....	.....	11.2
Michigan Central.....	804	804	.....	.....	.....	1,067,236	942,525	124,711	.....	13.3	1,327	1,152	175	.....	13.3
Missouri, Kansas & Texas.....	786	786	.....	.....	.....	511,182	402,639	108,543	.....	27.0	650	511	138	.....	27.0
Ohio & Mississippi.....	615	393	222	.....	56.5	608,934	499,570	109,364	.....	21.9	990	1,271	.....	281	22.1
Rome, Watertown & Ogdensburg.....	333	218	115	.....	52.8	156,685	136,336	20,349	.....	24.0	471	580	.....	109	18.8
St. Louis, Alton & Terre Haute, Belleville Line.....	71	71	.....	.....	.....	78,001	112,928	.....	\$34,927	30.9	1,099	1,591	.....	492	30.9
St. Louis, Iron Mt. & Southern.....	685	685	.....	.....	.....	684,700	532,701	151,999	.....	24.8	970	778	192	.....	24.8
St. Louis, Kansas City & Northern.....	504	504	.....	.....	.....	530,824	404,243	126,581	.....	31.3	1,053	802	251	.....	31.3
Toledo, Peoria & Warsaw.....	237	237	.....	.....	.....	138,346	78,202	60,144	.....	68.7	692	562	130	.....	68.7
Union Pacific.....	1,032	1,032	.....	.....	.....	1,221,000	1,195,237	25,763	.....	2.2	1,158	1,158	.....	.....	2.2
Totals.....	12,192	11,803	389	.....	3.3	11,588,482	10,024,475	\$1,564,007	\$34,927	15.6	\$950	\$849	\$101	.....	11.9
Total increase.....	.....	.....	389	.....	3.3	.....	.....	1,564,007	.....	.....	.....	.....	.....	.....	.....

rels or ties; fertilizers, bones, hoofs, horns, green hides, oil cake, lumber, earth paint, sewer pipe, cement stoves, iron and other ores, iron and nails, pig iron, pig lead and spelter in slabs or cakes, and zinc in slabs or pigs. The reduction is likely to prevent considerable shipments of provisions by water.

Boston rates remain as formerly, 10 cents higher than the New York rates on first and second class, and 5 cents higher on the other classes. The difference to Baltimore and Philadelphia also remain unchanged. For fourth-class, grain, boxed and bulk meats, and dressed meats, which form the bulk of the shipments, the rates to the four ports are:

	Fourth class.	Grain.	Cured meats.	Fresh meats.
Boston.....	45	45	55	75
New York.....	50	40	50	70
Philadelphia.....	40%	36	45%	63
Baltimore.....	39	35	44	61

In all these rates which have been changed, the New York rate is 5 cents lower than before, the Philadelphia rate 4½ cents lower, and the Baltimore rate also 4½ cents lower. The exact reduction to which Baltimore would be entitled would be 4½ cents.

Southern Freight Rates.

The recent convention at Atlanta agreed upon a large increase over the rates lately prevailing. It was resolved to advance the rates of freight from Boston, Philadelphia and New York to the principal points in the South, according to the following tariff, to go into effect after the sailing of the steamers, March 18:

Per 100 pounds to	1st Class.	2d Class.	3d Class.	4th Class.	5th Class.	6th Class.
Atlanta, Ga.....	\$1.45	\$1.25	\$1.00	\$0.80	\$0.60	\$0.50
Augusta, Ga.....	1.15	1.00	.85	.75	.60	.45
Charlotte, N. C.....	1.15	1.00	.85	.75	.60	.45
Chattanooga, Tenn.....	1.45	1.25	1.00	.80	.60	.50
Columbia, S. C.....	1.15	1.00	.85	.75	.60	.45
Dalton, Ga.....	1.45	1.25	1.00	.80	.60	.50
Knoxville, Tenn.....	1.50	1.30	1.10	.95	.70	.60
Macon, Ga.....	1.45	1.25	1.00	.80	.60	.50
Milledgeville, Ga.....	1.45	1.25	1.00	.80	.60	.50
Montgomery, Ala.....	1.40	1.30	1.05	.85	.70	.60
Opelika, Ala.....	1.45	1.25	1.05	1.00	.85	.70
Rome, Ga.....	1.50	1.30	1.05	.85	.65	.55
Selma, Ala.....	1.40	1.30	1.05	.85	.70	.60
West Point, Ga.....	1.70	1.57	1.30	1.05	.80	.70

drive are what are known as contract and about one-half of them stock cattle. The most of these cattle will probably be concentrated in Kansas between Dodge City and Ellis so that advantage may be taken of freight rates over either the Kansas Pacific or the Atchison, Topeka & Santa Fe railroads.

PERSONAL.

—Mr. Wm. A. Baldwin, Superintendent of the Philadelphia & Erie Railroad Division, Pennsylvania Railroad, has leave of absence for a time, and has gone to California with a party of friends.

—Mr. Charles Latimer, Chief Engineer of the Atlantic & Great Western, will remove his office from Meadville, Pa., to Cleveland, O., April 1.

—Gen. Braxton Bragg, late Chief Engineer of the Gulf, Colorado & Santa Fe road, is now engaged in organizing a colony to settle on a large tract of land in Western Texas.

—Mr. A. A. Talmage has been removed from the position of General Superintendent of the Atlantic & Pacific and leased lines by the receivers.

—Mr. S. Gross Fry, a well-known citizen of Philadelphia and one of the original projectors and organizers of the Perkiomen Railroad, died in Philadelphia, March 15. He was largely interested in Philadelphia street railroad property.

—A correspondent writes as follows to correct the statement that the late N. J. Beach was at one time Superintendent of the Hudson River Railroad: "Edmund French was at that time Superintendent, but it being asserted that his reign was too magnificent (a Superintendent is apt to be blamed when the road does not pay, and the Harlem was then carrying passengers from Albany to New York for \$1), George Stark took French's place. The opposition of the Harlem still continuing, the directors of the Hudson River hankered after a practical man and engaged N. J. Beach as Vice-President. An unpleasantness arose between Beach and Stark which led the latter to resign in a public letter that was interesting at the time. Stark was succeeded by French, who proceeded to make it dusty for Beach, and after about two years succeeded in having him appointed Auditor, which probably led to his resignation. If he was Superintendent, it was only for a short time, between the resignation of Stark and the reappointment of French."

—Mr. Charles Danforth, well known as a locomotive builder of long experience, died at his residence in Paterson, N. J., March 22, in the 79th year of his age. Mr. Danforth was at one time connected with the late Thomas Rogers and subsequently founded the firm of Danforth, Cooke & Co. When that firm was changed to an incorporated company under the name of the Danforth Locomotive & Machine Works, Mr. Danforth became President of the company and retained that office until his increasing age obliged him to retire from active business, about five years ago. He has been in failing health for some time and his death was not unexpected. He had accumulated a large property and was still the largest stockholder in the works which bear his name.

—The charges brought against A. D. Briggs as a member of the Massachusetts Board of Railroad Commissioners are now before the Railroad Committee of the Legislature. Mr. Charles Francis Adams, Jr., has addressed a letter to the committee in which he substantiates Mr. Briggs' statement that the Governor and Attorney General both told him that his continued connection with the bridge-building firm of which he was a member was not incompatible with his official position. Mr. Adams also testifies that this connection has not in any manner influenced Mr. Briggs' official action, and that it was generally known.

ANNUAL REPORTS.

Quincy, Missouri & Pacific.

This company owns and works a road from West Quincy, Mo., westward to Kirksville, 70 miles. The President's report for the year ending Dec. 31 gives the operations of the road as follows:

	1875.	1874.	Inc. or Dec.	P. c.
Gross earnings.....	\$130,612	\$107,151	Inc. \$23,461	21.9
Expenses.....	90,466	90,665	Dec. 199	0.2
Net earnings.....	\$40,146	\$16,486	Inc. \$23,660	143.5
Gross earnings per mile.....	\$1,866	\$1,531	Inc. \$335	21.9
Net earnings per mile.....	574	236	Inc. 338	143.5
Per cent. of expenses.....	69.27	84.62	Dec. 15.35	18.1

Great attention has been given to the development of the traffic. The passenger tariff was reduced 20 per cent., the result being an increase in receipts. The road has been worked with the utmost care and economy. The State and local taxes paid amounted to \$10,933, being no less than 8.4 per cent. of the gross earnings.

The disposition of net earnings was as follows:

Interest.....	\$22,987 54
Equipment account.....	2,363 20
Construction account.....	1,756 06
Old claims for salaries and legal expenses.....	1,608 46
Total.....	\$28,685 26
Cash balance on hand.....	\$4,669 80
Balance of earnings due from other roads.....	6,791 58
Total.....	\$40,145 64

The report says: "The negotiations for the transfer and completion of the road have been pressed forward with unremitting exertion. The state of the money market and public sentiment toward new railroads have seriously impeded these negotiations; yet, notwithstanding these difficulties, considerable progress has been made during the past year."

"During the month of August it became apparent that the negotiations had arrived at that point when it became necessary to prove the correctness of the statements made to the London correspondents, of the amount of local aid that could be obtained to assist in the construction of the unfinished road in Missouri. Your Board passed resolutions delegating Mr. King, your Secretary, to accompany Mr. Charles through Missouri on the line of the road, to introduce him to the people of the several counties, cities and towns, and to explain the nature of his negotiations for completing the road."

"This work has been completed, and the result is the municipal subscriptions obtained and duly entered in the stock book of the company, including that voted prior to 1875, giving a total of \$1,855,000 still unapplied, to be issued in the form of bonds. The entries in the stock book have been made by the county judges and mayors of cities, signed by them and sealed with their official seals. This much having been finished, the last phases of the negotiations have been entered, and from the present status of this business it is hoped that arrangements will soon be completed so as to go forward with the transfer and with the work of constructing the unfinished part of the road."

"The state of the outstanding liabilities of the company is virtually the same as stated in my last report, but from the present aspect of affairs what has long been desired, let us trust, is near at hand, viz.: completing arrangements to liquidate the whole; also to secure the early completion of the whole line to the Missouri River."

THE SCRAP HEAP.

A Rich Engineman.

Several weeks ago we copied from a Jersey City newspaper an item concerning one Lloyd Clark, who was said to have made \$75,000 in stock speculations in Nevada, and to be running an engine on the Central of New Jersey because he liked it. Now we receive a letter signed "Engineman in Nevada," who says that Lloyd Clark used to run an engine on their division, true enough, but had no fortune of \$75,000, nor any other sum. In their words: "When he left here or San Francisco he did not have enough to buy himself a lunch—all of the boys here can testify to that."

What to make of it all we can't tell. Perhaps the little speculation was made after he left Nevada; perhaps the boys at the Jersey City round house wickedly tried to deceive a reporter; and—but that is hardly conceivable—perhaps a Jersey City reporter has knowingly written the thing that is not, to deceive the public.

The Philadelphia & Reading at the Centennial.

The Philadelphia & Reading Railroad Company and the Philadelphia & Reading Coal & Iron Company have secured space in Machinery Hall and the Main Building, where they propose to exhibit one of their largest-sized coal-train engines; also, one truss coal car, model of truss bridge, and model of the bowstring bridge with elliptical arch. The models will be one inch to the foot, the truss being one-twelfth of 200 feet, and the bowstring one-twelfth of 75 feet.

The engine, which has been built at the shops of the company in Reading, is now being put together exclusively by the apprentice boys under 21 years of age, and will be, in railroad parlance, a perfect pet.

Among the other exhibits of the company will be samples of the mineral productions of the territory through which the company's road and lands extend. Dr. Cresson, of Philadelphia, is now superintending the collection of these specimens, among which will be one cross section of the mammoth coal vein measuring twenty feet in thickness of solid coal. Professor Blake of New Haven, representing the Smithsonian Institution, will superintend the collection of copper ores, coal fossils, and other specimens of the many valuable and interesting productions of those regions, which will be exhibited among the collection of the Smithsonian Institution.

OLD AND NEW ROADS.

Atlantic, Mississippi & Ohio.

By agreement between the counsel for the company and for the bondholders the hearing on the application to the United States Circuit Court for a receiver was set down for March 22, at Richmond.

In the Virginia House of Delegates a committee has been appointed to enquire into the nature of the suit brought by the bondholders and to report what steps had best be taken to protect the large interest in the road owned by the State as holder of a second mortgage for \$4,000,000.

It is said that a majority of the bondholders were prepared to accept the agreement made by Gen. Mahone while in Europe, and that this suit is brought by some of the English bondholders who are not satisfied with that agreement. The suit was entirely unexpected by the company.

Central, of Georgia.

President Wadley publishes the following statement of the operations of the road and leased lines for the six months ending Feb. 29:

Gross earnings (\$2,576 per mile).....	\$1,825,412 30
Expenses (48 per cent.).....	876,269 14
Net earnings (\$1,340 per mile).....	\$949,143 16

During the half year the liabilities of the company have been decreased by the amount of \$594,079.56.

Canada Central.

The Pembroke Branch of this road, from Renfrew, Ont., to Pembroke, 34½ miles, is nearly completed, and track is laid for 25 miles of the distance.

Lafayette, Muncie & Bloomington.

The final arrangements for the entrance into Lafayette, Ind., on the Indianapolis, Cincinnati & Lafayette track are not yet settled. A second track is to be built from the intersection into Lafayette, but the Indianapolis, Cincinnati & Lafayette proposes to build and own this track, leasing the use of it to the Muncie Company. The directors of the latter, however, prefer to build, or at least to own, the second track themselves, and to have the exclusive use of it for their trains.

Nova Scotia, Nictaux & Atlantic Central.

This company proposes to build a railroad across Nova Scotia from a point on the Bay of Fundy southeast through the valleys of the Nictaux and La Have Rivers to Liverpool on the Atlantic coast. It is one of the companies which have been organized in the hope of securing a subsidy from the Province, and the construction of the road probably depends entirely upon its success in getting such subsidy. Meetings are being held and other influences brought to bear upon the Government.

Rio Grande.

The Texas Supreme Court, on appeal, has dissolved the injunction granted by the Circuit Court to prevent this company from building its road through the city of Brownsville, Tex. The Court holds that the charter authorizes it to use the streets of that city so far as necessary for the completion of the road.

Rensselaer & Saratoga.

Work has been begun on a second track from Mechanicsville, N. Y., southward, of which three miles are to be completed at once.

Indianapolis, Cincinnati & Lafayette.

Work on the new cut-off line above Lawrenceburg, Ind., has been stopped by an injunction obtained by the city of Lawrenceburg. The injunction is temporary and the case will be heard on its merits April 18.

Kansas Pacific.

In order to prevent the diversion of the New Mexico and Southern Colorado business to the Atchison, Topeka & Santa Fe, it is said that this company is making arrangements to extend its Arkansas Valley line from the present terminus at La Junta, Col., southwest 120 miles to Trinidad. A survey of the extension is to be made at once.

Mobile & Ohio.

The object of the recent application to the United States Circuit Court for leave to file a bill to displace the trustees and receivers, is to place Mr. Morris Ketchum, of New York, in possession as the legal surviving trustee under the first mortgage. It appears that Morris Ketchum, Wm. B. Hallett and John J. Palmer were originally appointed trustees in 1853, and subsequently the two latter died. In 1863, during the war, the Alabama Chancery Court removed Mr. Ketchum on the ground that he had refused to unite with the company in the appointment of new trustees to fill the vacancies, and three trustees were appointed, to whom the present ones are successors. It is now proposed to show that Mr. Ketchum's removal in 1863

was illegal and void, on the ground that no notice of the proceeding was served on him, and that, in consequence of the war, it was impossible for him to appear before the Court or be heard in any way. The bill has been filed and the case will come up at the next term of the Court in Mobile.

Texas & Pacific.

The iron is now being laid on the extension of the Transcontinental Division from Bonham, Tex., east to Paris. The rails are all on hand and the work was to be completed this week. The arrangements for the iron for the section from Paris to Texarkana are not quite completed.

Austin & Lampasas.

Subscriptions are being made to the stock of this company and are said to be coming in freely. The company has arranged to let a section of 25 miles, from Austin, Tex., to a point five miles beyond Bagdad, as soon as \$100,000 has been subscribed. The road is to be of 3 feet gauge.

International & Great Northern.

The company has let contracts for the grading of 20 miles of the extension from Rockdale, Tex., westward to Austin, and work has been begun on the first five-mile section.

Chicago, Clinton & Western.

It is said that Mr. F. E. Hinckley, contractor for this road, has arranged to pay off the indebtedness incurred by him. It is also reported that arrangements are being made to resume work on the road and complete it to Iowa City.

Atlantic & Lake Erie.

Superintendent Thompson informs us that eight miles of this road are in operation, from New Lexington, O., into the Perry County coal field. The line from Chaucery, O., to Bucyrus, 125 miles, is under contract, to be completed, laid with steel rails and ballasted by May 1, 1877. The contractors, as has been heretofore noted, are Vibbard, Ball & Co., whose office is at No. 42 Broadway, New York.

Worcester.

This company recently obtained authority from the Virginia Legislature for an extension from the Maryland line down through the Eastern Shore counties to Cherrystone. A survey is now being made, and it is said that the road will probably be built as far as Drummondtown, about 20 miles, this season.

Atlantic & Pacific.

The St. Louis Republican of March 18 says: "The following prominent railroad officials and capitalists from New York arrived on a special car yesterday, and are registered at the Lindell: Commodore C. K. Garrison, Andrew Peirce, President of the Atlantic & Pacific Railroad; Messrs. Stone, May and Joseph Seligman, bankers; and Wm. Bond, Receiver of the Missouri, Kansas & Texas road."

"The visit of these gentlemen has reference to the completion of arrangements for the separation of the Atlantic & Pacific and the Missouri Pacific roads. For this purpose they will have a conference with the trustees, and there will also be a meeting of the board of directors."

Philadelphia, Wilmington & Baltimore.

This company has asked the City Council of Wilmington, Del., to vacate certain streets laid out through its property in that city. The reason given is that the company desires soon to begin the erection of new and extensive repair shops on its property, and is also desirous of building new passenger and freight depots much larger than the present ones.

Chesapeake & Ohio Canal.

Water has been let into all the levels of this canal except the extension from Georgetown to Alexandria. The first coal boats of the season cleared from Cumberland, Md., March 21.

Burlington, Abingdon & Peoria.

This company has lately filed its articles of incorporation, and purposes building a railroad from Burlington, Ia., eastward through Abingdon, Ill., to Peoria. The road is to be of 3-feet gauge, and would be parallel to and a little south of the existing line owned by the Chicago, Burlington & Quincy.

Little Rock, Mississippi River & Texas.

There is talk of a branch or extension of this road, to leave its Ouachita line near Monticello, Ark., and run southward to the Vicksburg, Shreveport & Texas, at Monroe, La. It is not likely, however, that anything will be done on this line until the Pine Bluff line is finished to Little Rock.

Michigan Air Line.

This company is trying to secure subscriptions for the purpose of completing its line according to the original intention, from Romeo, Mich., southwest to Jackson. The country along the line is being canvassed for that purpose.

Baltimore & Towsontown.

The representatives of this company are trying to secure the passage of a law authorizing Baltimore County to subscribe to the stock of this company, but have not met with much success thus far.

Northwest Arkansas.

It is now proposed to go to work at once and grade this road from Bentonville, Ark., northward to Pierce City, Mo., on the Atlantic & Pacific road, a distance of 45 miles. This section would then be laid with wooden rails, to be replaced by iron whenever the business and earnings of the road may warrant it.

Cooperstown & Susquehanna Valley.

The Utica (N. Y.) Herald says: "It has been thought best, by the directors of the Cooperstown & Susquehanna Valley Railroad, to issue second-mortgage bonds to the amount of \$40,000. That the directors have confidence in these bonds they demonstrate by subscribing the amount of \$30,000. The bonds will be issued May 1, bearing interest semi-annually; and the first installment of 10 per cent. will be paid two years from date of issue, to be followed by a like installment, until these bonds are all redeemed."

Cleveland, Columbus, Cincinnati & Indianapolis.

The trustees under the consolidated mortgage gave notice that 25 bonds have been drawn for redemption, as provided in the mortgage, and that they will be paid on presentation on and after June 1, after which date interest on them will cease. The numbers of the bonds drawn are: 3712, 3731, 3920, 4104, 4234, 4406, 4593, 4662, 4814, 4963, 5039, 5098, 5100, 5116, 5152, 5164, 5319, 5447, 5557, 5560, 5573, 5654, 5662, 5783, 6184.

The company has purchased a large quantity of steel rails for use in renewals of track this season. It is intended to lay the whole of the Indianapolis Division, from Gallion to Indianapolis, with steel.

Paducah & Memphis.

The following circular has been issued by Gantt, Patterson & Lowe, of Memphis, Tenn., as agents of the company: "The Paducah & Memphis Railroad Company having made default in the payment of interest on its bonded debt, the Trustees named in the mortgage were directed by the bondholders to proceed to a foreclosure. A bill was filed by the Trustees, Messrs. Myer and Calhoun, for that purpose, and by order of the Circuit Court of the United States, dated July 27 last, the entire property of the company passed into the hands of Mr. C. H. Allen, as the Receiver of that court, who has since operated

the road. You will observe, that default being made, the trustees, at the instance of the bondholders, could have foreclosed the mortgage promptly, and in this way entirely cut off the general creditors. This result, however, was not desired by the trustees or the bondholders. It was and it is their wish to protect the interest of all concerned, in so far as it can be done with due regard to their own safety. For the accomplishment of this end, negotiations have been pending for several months past in the city of New York, in which the trustees and bondholders, the officers of the company and others interested in the result, participated. These negotiations were successfully terminated a few days ago in a general plan of settlement which met with the approval of the parties taking part therein, and it is now ready for the approval of such of the general creditors as were not present.

"The prominent features in this plan of settlement are:

1. Stipulations looking to, and providing for the completion of the road.
 2. Stipulations for the security of the bondholders.
 3. Stipulations for the protection of the general creditors.
 4. Stipulations for the ultimate security of the stockholders.
- "We are requested by the parties to the negotiation to call the attention of the general creditors residing in Tennessee to the provisions made for their security, and to give them an opportunity of taking its benefits by becoming parties to the agreement."

Missouri, Kansas & Texas.

A new plan for the arrangement of this company's affairs has been agreed upon, a brief outline of which is as follows: The bondholders are to fund all the outstanding coupons up to Jan. 1, 1876, to accept 4 per cent. interest for 1876, 1877 and 1878, and 5 per cent. for the next three years, funding the difference between those sums and 7 per cent. The bonds known as the Fort Smith Branch bonds are to be recognized as valid. The floating debt creditors are to receive for the amount of their claims with interest up to Aug. 1, 1875, new second-mortgage bonds at 80, these bonds to bear 6 per cent. interest, payable only after that on the first-mortgage bonds. All suits now pending are to be withdrawn; the trustees under the agreement of 1874 are to turn over the money and coupons in their hands to the Union Trust Company, of New York. The present Receiver, Wm. Bond, is to retire, and the Union Trust Company, as trustee, is to take possession of the road and manage it through its agents. To assist in the management there is to be an advisory board of five members, three nominated jointly by the New York and Amsterdam committees of bondholders, and two by the Union Trust Company.

It remains to be seen how this plan will be received by the bondholders generally.

Chicago, Milwaukee & St. Paul.

At a meeting of the board held in New York last week it was resolved to pay two dividends of 7 per cent. each on the preferred stock, one from the earnings of 1874 and one from those of 1875. It was resolved to pay these dividends in consolidated bonds of the company, and to make them both payable April 10. The following statement of income was made:

Balance to credit of income after paying dividend of 1873 on preferred stock.....	\$727,032 00
Net earnings for 1873.....	\$3,081,900
Less interest on bonds.....	\$1,956,085
" other items.....	146,807
	2,109,802
Net earnings for 1875.....	\$3,085,389
Less interest on bonds.....	\$1,980,237
" other items.....	63,519
	2,043,746
Total.....	2,747,683 00
Two dividends, 14 per cent. in all on \$12,274,483 preferred stock.....	1,718,427 62

Balance to credit of income..... \$1,029,255 38
The dividend of 1873, paid in March, 1874, was also paid in consolidated bonds.

Chesapeake & Ohio.

A majority of the holders of both the 6 per cent. and 7 per cent. bonds of this company having assented to the plan of reorganization proposed by the company, the following committee has been nominated to carry out that plan: A. A. Low, John Castree, C. F. Huntington, A. S. Hatch, of New York, and Isaac Davenport, Jr., of Richmond. The election is now being held, bondholders voting in person or by letter, and will continue until April 10. The committee is to have authority to complete the foreclosure and reorganize the company, and also to receive assents to the plan from any bondholders who have not yet united.

James River & Kanawha Canal.

The Virginia Senate, after an apparently interminable discussion, has passed the bill providing for a railroad from Buchanan to Clifton Forge, instead of an extension of the canal.

Boston & New York Air Line.

The Boston *Advertiser* of March 21, says: "The first fully equipped train of the line that has ever entered Boston came in over the New York & New England Railroad yesterday afternoon. It consisted of four new cars (two passenger, one smoking and mail, and one baggage car) just completed for the Boston & New York Air Line Railroad Company, and was run by Master Mechanic Bishop and Engineer Bailey of that company, under the personal supervision of their Superintendent, W. H. Turner, and Superintendent Britton of the New York & New England. The cars were built by the Pullman Company, are handsomely finished, both inside and out, and the train presented a fine appearance as it entered the station. This train, and another exactly similar, have just been received by the Boston & New York Air Line road, and the trip was simply a trial trip, the only passengers being H. B. Hammond, General Manager, A. M. Colgrove, director of the company, the well-known contractor N. C. Munson, Mr. O. Vincent Coffin, of Middletown, and C. S. Turner of the Worcester & Nashua road. A portion of the train returned to Middletown last evening. The other cars remain at the station foot of Summer street. These trains are to run between Boston and New York over the New York & New England and Air Line roads, which form the shortest route in existence, and the line will be opened some time this spring."

The distance by this line is: New York & New England, Boston to Willimantic, 86 miles; Boston & New York Air Line, Willimantic to New Haven, 54 miles; New York, New Haven & Hartford, New Haven to New York, 74 miles; total, 214 miles. The distance by the established line by Springfield is 234 miles; by the Shore Line, 231 miles.

Dubuque Southwestern.

This company recently obtained an amendment to its charter allowing it to relocate a part of its line. It is said that the intention is to leave the present line near Monticello and build thence by way of Cascade to Dubuque, about 30 miles. It is also proposed to extend the road from Cedar Rapids southwest to Ottumwa. The present eastern terminus is at Farley, 23 miles from Dubuque, on the Iowa Division of the Illinois Central.

Green Bay & Minnesota.

This company proposes to make a new Western terminus at La Crosse, Wis., by securing the use of the La Crosse, Trem-

peau & Prescott track from Marshland to Onalaska, and by building a branch about seven miles long from the last named place to La Crosse. It has asked the City of La Crosse to subscribe \$75,000 to the stock and offers in return to build the branch, to build a good depot in the city and to run through trains between La Crosse and Green Bay. A special election on the question of making the subscription was to be held March 18.

Maine Central.

It is said, and with every appearance of probability, that much of the stock held by or in the interest of the Eastern Railroad Company has changed hands, and that the controlling interest is now in the hands of the Maine parties who formerly held it. If this is true, there will probably be a number of changes at the coming annual meeting.

Pennsylvania & Delaware.

At the annual meeting in Philadelphia, March 21, it was stated that the earnings for 1875, as reported by the lessee, were as follows:

Freight.....	\$31,301 10
Passengers.....	6,461 32
Mails.....	1,543 20
Total (\$1,094 per mile).....	\$39,305 62
Expenses (75.22 per cent.).....	29,580 24
Net earnings (\$256 per mile).....	\$9,745 38

The actual surplus of earnings was \$8,905.38. The road is leased to the Pennsylvania. It is 38 miles long, from Pomeroy, Pa., to Delaware City, Del.

Chicago, Danville & Vincennes.

The plan prepared by the bondholders' committee provides for the sale under foreclosure of both the Illinois and Indiana divisions, their purchase by the bondholders and the organization of a new company. This new company is to issue: 1. \$1,300,000 preferred first-mortgage bonds, \$700,000 to be issued at once, the rest from time to time as needed and as the bondholders may direct, the proceeds to be used in putting the road in good repair and completing it.

2. Ordinary first-mortgage bonds to the amount of \$3,000,000, to be exchanged for the present Illinois Division bonds and 90 per cent. of the accrued interest. Holders of these bonds to have votes in the management of the company. The first two coupons to be paid only if earned.

3. Second mortgage 7 per cent. income bonds to the amount of \$1,900,000, to be exchanged for the present Indiana Division bonds at the rate of \$1,200 for each old \$1,000 bond. These bonds also to carry votes.

Ohio & Mississippi.

The Wiggins Ferry Company has brought suit in the Illinois Circuit Court to recover \$150,000 from this company for alleged breach of contract. The suit is based upon an old contract under which the Ferry Company conveyed to the road the land now used for its depot and yards in East St. Louis, one of the conditions being that its ferry should have the exclusive privilege of transferring the passengers and freight brought to East St. Louis by the road across the Mississippi River to and from St. Louis. The suit is regarded with interest as being a test case, nearly all the lines ending in East St. Louis having similar contracts with the Wiggins Ferry Company.

California Railroad Law.

The lower House of the California Legislature has passed the law regulating rates on the railroads of the State, after a very long discussion. It has yet to go to the Senate, where it is believed that its chances of passage are somewhat doubtful.

Southern Maryland.

From a statement made by President Smoot to a committee of the Maryland Legislature, it appears that the work done on this unfinished road prior to the suspension in 1874 cost \$436,000. The money spent was derived from private subscriptions and the State subscription of \$163,000. An issue of \$2,200,000 bonds was authorized, but only \$7,000 were sold. The floating debt amounts to about \$87,000.

Indianapolis & Sullivan.

This company, having secured subscriptions to the necessary amount, has completed its organization and filed articles of incorporation. The line of the projected road is from Indianapolis southwest to the Evansville & Crawfordsville at Sullivan, about 100 miles. It is to be of 3-foot gauge.

Southern Pacific.

The securities of this company have been put upon the list at the New York Stock Exchange. The company's statement gives the capital stock authorized as \$90,000,000; paid in, \$22,412,200. Total issue of bonds authorized \$46,000,000, in seven series, of which only Series A, \$15,000,000, will be issued until further notice to the Exchange, and only \$14,346,000 are actually outstanding.

Work is now progressing very actively on the San Fernando tunnel and on the difficult mountain section through the Tehachas Pass. It is expected that it will be so far advanced as to permit the completion of the line to Los Angeles by July.

Meetings.

The following companies will hold their annual meetings at the times and places given:

Pennsylvania, annual election of directors, at the company's office, No. 233 South Fourth street, Philadelphia, March 28. The polls will be open from 10 a. m. to 6 p. m.

Panama, at the office, No. 7 Nassau street, New York, April 3, at noon.

Detroit, Bel River & Illinois.

In the Circuit Court at Logansport, Ind., March 20, in the suit of James F. Joy and H. P. Baldwin, trustees, against this road, a decree of foreclosure of the first mortgage was granted and the sale of the road ordered. The amount of the bonds and accrued interest is \$2,593,544.48. The company made no opposition. The road extends from Butler, Ind., west by south to Logansport, 93 miles.

Lafayette, Bloomington & Mississippi.

In the United States Circuit Court at Springfield, Ill., March 20, a decree of foreclosure of the first mortgage on this road was granted and a sale ordered, on suit of A. B. Baylis, trustee. The outstanding bonds amount to \$1,393,000. The road is 81 miles long, from Bloomington, Ill., east to the Indiana line, and has been worked under a lease to the Toledo, Wabash & Western.

Fredericksburg & Gordonsville.

The Virginia Legislature has passed and the Governor has signed the bill providing for the reorganization of this company and the change of its name to the Potomac, Fredericksburg & Piedmont Railroad Company.

Passenger Rates to the Centennial.

A circular has been issued by the General Passenger Agents of the New York Central, the Baltimore & Ohio, the Erie and the Pennsylvania, requesting that their Western connecting lines make all Centennial excursion tickets to Philadelphia and New York issued from Detroit, Cleveland, Crestline, Columbus, Cincinnati and points west of those places good for

passage 60 days from the date of sale, instead of 30 days as heretofore agreed upon. Also that half-fare tickets for children between five and twelve years old be issued. This action is taken in accordance with a general expression of opinion at the recent convention of the General Passenger Agents' Association.

Boston & Albany.

The testimony in the investigation ordered by the Massachusetts Legislature has all been taken and the closing arguments of the Attorney General for the State and counsel for the company have been heard. As usual, there is a considerable difference of opinion, the Boston party claiming that its charges have been substantiated, while the company and its friends consider that the management has been fully justified by the evidence. The committee's report will probably be made in a few days.

Valley, of Virginia.

A special meeting of the stockholders was held in Staunton, Va., March 15. A long report was read from the committee appointed to consider the accounts in dispute between the company and the Baltimore & Ohio. The conclusion of the report is that the charges made by that company for laying the track and completing the 26 miles from Harrisonburg to Staunton were exorbitant. A resolution was passed directing the board to terminate the existing contract under which the completed section is worked by the Baltimore & Ohio, May 1, and to solicit proposals for the lease of the road after that date; no lease for more than two years to be made. It was also resolved that the board should offer to submit the disputed accounts with the Baltimore & Ohio to arbitration, and should report to the stockholders the result of such offer.

New Orleans, St. Louis & Chicago.

The counsel for this company, on the application for a receiver, admitted that the company could not successfully oppose it, and gave the following reasons for its embarrassed condition:

1. The accumulation of debt during the war, when the companies, afterwards consolidated in the present corporation, could not pay interest or even preserve the property.
2. The disadvantage at which the roads were worked after the war, being in a dilapidated condition, with poor and insufficient equipment and no credit.
3. The opening of rival and competing lines.
4. The building of the Cairo Extension, which was necessary to preserve the traffic of the road, but which was done at a disadvantage and at increased cost, owing to the difficulty of raising money.
5. The building, in 1874, of the 17 miles of the Kosciusko Branch, which had to be done to preserve the company's charter.
6. The general depression of business and the diminished traffic of the last two years.
7. The crevasse of 1871, which stopped the running of trains south of Manchac for four months, and that of 1874, which made it necessary to raise the track for 20 miles at a heavy cost.

The order of court appointing the receiver required him to give bonds in the amount of \$100,000, and fixed his compensation at the rate of \$12,500 per year, with \$2,500 per year allowance for incidental expenses. He is to file a report and inventory as soon as possible and to make monthly statements of receipts and disbursements.

Rochester State Line.

The bill authorizing the towns which hold bonds of this company to exchange them for stock has passed the New York Legislature and has been signed by the Governor. This will allow the company to complete the arrangement made with Mr. J. Condit Smith, of Buffalo, for the completion of the road.

Dividends.

Dividends have been declared by the following companies: Chicago, Rock Island & Pacific, 4 per cent., semi-annual, payable April 27. Transfer books will be closed from March 31. Camden & Atlantic, 2 per cent., quarterly, payable April 15. Houston, 2 per cent., quarterly, on the preferred stock, payable April 10.

Chicago, Milwaukee & St. Paul, 14 per cent. on the preferred stock, being 7 per cent. from the earnings of 1874 and 7 per cent. from those of 1875, payable April 10, in consolidated sinking fund bonds.

United New Jersey, 2½ per cent., quarterly, payable April 19.

California Pacific.

The Extension bondholders held a meeting in Frankfurt Germany, on the 24th of February, at the call of their committee, at which the latter presented the result of their negotiations with the Central Pacific, which have in part been published before. In the summer of 1874, immediately after the suspension of interest payments, the committee rejected a proposition for settlement made by the Central Pacific and preferred a suit to enforce their lien on the California Pacific, of which the Central has been lessee for some years. In October of that year a Mr. Haggin, formerly a contractor on the California Pacific, obtained a judgment against the company for \$1,300,000; but through the exertions of the committee and its representatives in California, Governor Lane and General Frisbie, this judgment was set aside Dec. 20, 1874. Haggin appealed, but in July of 1875 when the case had been heard and a judgment was expected, the Central Pacific again proposed a settlement. The terms offered were to give instead of the \$3,500,000 of outstanding 7 per cent. Extension bonds \$2,000,000 6 per cent. 30-year bonds guaranteed by the Central Pacific, while \$1,000,000 3 per cent. bonds would be issued for the income bonds of that amount. But the Central Pacific made it a condition of this arrangement that within twelve months from the date of the agreement the holders of at least \$3,490,000 out of the \$3,500,000 should agree to the arrangement. The committee did not suppose it practicable to secure such unanimous action, but nevertheless advertised for consents, and called the meeting, at which time they had about \$2,800,000. If the scheme had been carried through, the committee said that each holder of a \$1,000 bond would have received \$500, and the balance of the bonds, at the rate of \$72 to each old \$1,000 bond, would be sold and the committee's expenses, etc., paid therefrom. The expenses are reported to be more than \$250,000.

The meeting approved the committee's acts and intrusted it with the further conduct of affairs. It seems to be hoped that the Central Pacific may now offer terms which can be more easily complied with.

Central Pacific.

In the Fourth District Court, San Francisco, March 15, Counsel for John R. Robinson filed a complaint against this company, the Contract & Finance Company, Leland Stanford, C. P. Huntington and others. The complaint alleges that Robinson is a stockholder in the Central Pacific; that defendants fraudulently made contracts with themselves under the name of the Contract & Finance Company at excessive rates and in this and other ways absorbed the gains arising from the subsidies, land grants, etc. The complaint sets forth the alleged facts at great length and generally charges fraud in the construction and management of the road. The plaintiff claims that the amount of stock owned by him would be entitled under a fair division of the profits to \$1,200,000 in money and

150,000 acres of land. He asks the Court to appoint a receiver, to remove the present board of directors and to decree that all the property which they have acquired since they have had control of the company is the property of the company. It is said that the suit will be pressed to trial.

Rockford, Rock Island & St. Louis.

Receiver Ferry has filed a final report and asks to be discharged. He delivered the road to Mr. Osterberg Nov. 1. From Dec. 1 up to Jan. 31 his account is as follows:

Cash on hand Dec. 1.....	\$12,943 95
Received.....	41,629 46
Total.....	\$54,573 41
Disbursements.....	31,084 87
Balance.....	\$23,488 54

There are still claims on file amounting to \$12,232.14. He holds freight bills amounting to \$2,821.67, of which \$2,618.77 can be collected, and a claim for \$531.16 against the Sheriff of Greene County. There is also a tract of 570 acres in Schuykill County, Pa., and 15 acres in Henry and Macopin counties, Ill., known as the Curtis tract, besides a partial right of way through Beardsdown. The report was referred to a master to examine and make report to the Court.

Indianapolis, Decatur & Springfield.

The Indianapolis Journal of March 16 says: "We learn that some 300 men and teams are at work upon the road east of Montgomery, and the force will be increased to 500 next week. By April 1, the Engineer will be ready to contract for building another section of 15 miles. The present understanding is that the road will come into this city north of the Indianapolis & St. Louis line. An offer will be made the Indianapolis, Bloomington & Western Company to build a double-track bridge jointly across White River, or if the latter does not favor such a movement, this company will build the bridge and lease to the Indianapolis, Bloomington & Western Company one side of it. The company owns the undivided half of nearly four acres of ground west of West street, between the Vandalia and Indianapolis & St. Louis tracks, and upon this ground the company will more than likely locate their city freight depot."

Illinois Midland.

The United States Court has refused to take jurisdiction in the suit brought by R. G. Hervey, President, against this company in the Edgar County (Ill.) Circuit Court.

Berrien County & Indiana.

A meeting was held in Buchanan, Mich., March 15, to organize this company. The proposed road is to be a narrow-gauge and to run from Benton Harbor, Mich., by Berrien, Buchanan and South Bend to Plymouth, Ind.

Brownsville & New Haven.

The contract for building the section from New Haven, Pa., to Vance's Mill has been let to John Wilhelm, of Connellsville, Pa. It is about 10 miles long. The company has also let contracts for 18,000 ties to be used on the road.

Santa Cruz.

The injunction which was sued out some time since to restrain the County of Santa Cruz, Cal., from subscribing \$6,000 per mile to this road has been dissolved, and the County Board recently ordered that \$34,000 of bonds of the county be executed and delivered to the company, being in full of the subscription for the 14 miles of the road in the county.

Chicago & Pacific.

It is said that this company is making arrangements to extend its road from the present terminus at Byron, Ill., southwest to Sterling, where it will connect with the Rockford, Rock Island & St. Louis, giving that road a new connection to Chicago. The extension will be about 35 miles long.

Eastern.

The Railroad Committee of the Massachusetts Legislature began its investigation into the affairs of this company March 14. The investigation will probably be very long, as a number of the present and former officers of the company are to be examined, besides some outside witnesses. It is hardly probable that anything very new will be brought to light.

General Passenger and Ticket Agents' Association.

The regular spring meeting was held in Cincinnati, March 15, President E. S. Flint presiding. The spring time-tables were referred to a committee of fifteen, who reported in favor of continuing last summer's schedule, with a few unimportant changes. The report was adopted and April 16 fixed as the time for the new schedule to take effect. After resolving to hold the fall meeting at the Windsor Hotel, New York, on the first Wednesday of October, the convention adjourned.

Poughkeepsie Bridge.

At a special town-meeting held in Hartford, Conn., March 16, it was resolved that it was inexpedient for the city to subscribe directly to the stock of this company, but a resolution was passed authorizing the city authorities to transfer the 1,500 shares of Connecticut Western stock to those citizens of Hartford who should subscribe an equal amount to the stock of the Bridge Company, each subscription for one share to receive one share of the Connecticut Western stock.

New Orleans Pacific.

The late Legislature of Louisiana passed a law authorizing the city of New Orleans to levy in aid of this road a tax of five mills per year for four years. It is estimated that this tax will produce \$600,000 annually, or \$2,400,000 in all. The question of levying such tax is to be submitted to the people of the city at a special election to be held for that purpose.

Martha's Vineyard.

The directors have voted to build an extension of this road about one-half mile long, which will carry the southern terminus of the road to South Beach. The iron for the extension has been bought. The running of trains, which is suspended during the winter, will be resumed about May 1, although the full summer travel does not begin before the middle of June.

Coast Line.

An adjourned meeting of the stockholders was held in Savannah, March 13, at which it was stated that something must be done at once to relieve the company from the pressure of the floating debt. If the stockholders would not subscribe for the proposed issue of bonds, the road would probably be sold by the Sheriff, and their investment would be lost. The response was quite satisfactory, \$23,200 being subscribed, leaving only \$6,800 to be made up, to secure which canvassers were appointed.

Oberaw & Lenoir.

Track has been laid from the Atlanta & Richmond Air Line crossing at Gastonia southward nine miles to Crowder's Creek, S. C., 18 miles north from the terminus of the old line at Yorkville. A temporary trestle is being built over the creek, and as soon as that is done the track will be laid to Yorkville as fast as possible.

Louisville, Harrod's Creek & Westport.

The business of this line has thus far been much better than was expected, especially when its limited means and insufficient equipment were considered. Besides a large local passenger business, it has developed a considerable traffic in building-stone and lime carried to Louisville. Arrangements

are now being made for its extension to Carrollton, Ky., 45 miles northeast from Louisville. The road is now about five miles long.

Oberaw & Chester.

The grading from Chester, S. C., eastward to Lancaster is now all completed except the bridge over Fishing Creek, on which work is in progress. A considerable force is now at work on the grading of the eastern end of the line, between Chester and Chesterfield Court House. The distance from Chester to Lancaster is about 25 miles; Lancaster to Chester, 50 miles.

Waynesville, Port William & Jeffersonville.

This newly incorporated company purposes building a narrow-gauge railroad from Waynesville, O., the terminus of the Miami Valley road, now under construction, east by north to Jeffersonville, 30 miles. It is intended to be part of a narrow-gauge line from Cincinnati to Columbus.

Kingsbridge & Yonkers.

A company has been organized to build a railroad from the extreme northern point of Manhattan Island at Kingsbridge north by west to Yonkers, a distance of 4½ miles.

Louisville, Cincinnati & Lexington.

In the Court of Chancery at Louisville, March 15, a large number of claims against the road were referred to a master for examination and report. By agreement of counsel they were submitted simply on the proofs, without argument.

New London Northerner.

This company has contracted for 1,200 tons of steel rails, to be used in relaying the track between New London, Conn., and Norwich.

Rhode Island & Massachusetts.

The contract for the 14 miles of this road from Valley Falls, R. I., northward to Franklin, Mass., has been let at \$15,000 per mile, to include everything but buildings and equipment.

Jeffersonville, Mt. Sterling & Columbus.

This company recently filed articles of incorporation with the Secretary of State of Ohio. It purposes building a narrow-gauge railroad from Jeffersonville, O., east by north 36 miles to Columbus. With the projected Waynesville, Port William & Jeffersonville and Miami Valley roads, it will form a line from Cincinnati to Columbus. The capital stock is to be \$400,000.

Revere & Everett.

This new company purposes to construct a branch of the Boston, Revere Beach & Lynn road, from Revere, Mass., westward about three miles to a point in the town of Everett. The company has been negotiating for the purchase of an existing horse railroad track in Everett, with the intention of using its road-bed and possibly its rails also. The capital stock is fixed at \$20,000, and the road is to be of three-foot gauge.

Atchison, Topeka & Santa Fe.

Regular trains now run through from Atchison and Kansas City to the new terminus at Pueblo, Col. The distance from Atchison to Pueblo is 618.2 miles; Kansas City to Pueblo, 633.6 miles. The stations on the new section from West Las Animas to Pueblo, with the distances from West Las Animas are: Robinson 8.9 miles; La Junta 17.9; Rocky Ford, 28.5; Apishpa, 40.7; Nepesee, 53.2; Chico, 68.6; Pueblo, 82.1.

The company's lines now comprise six divisions, as follows: Kansas City Division, Kansas City, Mo., to Topeka, Kan., 66 miles; Atchison Division, Atchison, Kan., to Emporia Junction, 111 miles; Cottonwood Valley Division, main line from Emporia Junction to Newton, 74.2 miles, and branch from Newton to Wichita, 27 miles, in all 101.2 miles; Newton Division, Newton to Dodge City, 167.4 miles; Dodge City Division, Dodge City, Kan., to Granada, Col., 128.8 miles; Colorado Division, Granada to Pueblo, 136.8 miles; in all 711.2 miles. The whole road forms a main line of 618.2 miles from Atchison to Pueblo, with branches from Topeka to Kansas City, 66 miles, and from Newton to Wichita, 27 miles.

Syracuse, Geneva & Corning.

This company is offering for sale through Aug. J. Brown & Son, of New York, its first-mortgage 7 per cent. bonds, to be issued at the rate of \$16,000 per mile. The bonds are offered at 95 and accrued interest. The road is to extend from Corning, N. Y., northward to Geneva and is to be an extension of the Corning, Cohanessque & Antrim road. It is stated that the New York Central & Hudson River Company owns a majority of the stock, and that the Fall Brook and Morris Run coal companies guarantee an annual shipment of 400,000 tons of coal over the line.

Watchung.

It is said that negotiations are pending with the Montclair & Greenwood Lake Company for an arrangement under which this road will be worked by it as a branch. The Watchung road is about four miles long, from the Montclair & Greenwood Lake at Woodside, N. J., west by south to West Orange. The rails were laid in 1873, but no passenger trains have ever been run over it. There are no depots on the line and the road-bed will require some repairs, the cuts and fills having been washed considerably during three years of neglect.

Sussex.

A gravel train with a force of men has been put at work widening the Haines Cut at Hamburg, N. J., on the Warwick Extension. The cut is very deep, through a light soil, and has given much trouble from land-slides.

New Jersey Midland.

A meeting of milk-producers was held at Lafayette, N. J., March 13, Milk Agent Van Benschoten of the Midland and Superintendent Case of the Sussex being present. Arrangements were completed for running a milk train over the Sussex road in connection with the New Jersey Midland, and the greater part of this large milk traffic will hereafter go to New York over this road, instead of by the Delaware, Lackawanna & Western as heretofore. The milk business is a profitable one and this addition to its traffic will be a very welcome one to the Midland.

Toledo, Peoria & Warsaw.

In the United States Circuit Court in Chicago, March 17, the trustees of the first mortgages of the Eastern and Western Division filed an intervening petition in the suit for the foreclosure of the consolidated mortgage. The bill sets forth that the bondholders have a lien prior to that of any of the parties holding unsecured claims and bills against the road, and asks that the court direct the Receiver to apply the net earnings of the road to the payment of their overdue coupons.

Connecticut Valley.

A new passenger depot is to be built in Hartford, Conn., to accommodate the increased travel coming from the extension to Springfield. It will be located on State street, opposite the present one. The freight depot in Hartford is to be lengthened 95 feet, and the repair shops are to be removed from their present site to the North Meadows.

Western Counties.

At the annual meeting in Yarmouth, N. S., recently, the directors reported that the only drawback to the progress of the work arises from the fact that the company has no means of providing for the notes which were given to Messrs. Shanly & Plunkett on account of the \$250,000 in bonds, which in the con-

tract they agreed to get cashed in Nova Scotia at the rate of 70 cents to the dollar. One hundred thousand dollars of the amount was taken by individuals in Yarmouth, but the directors were unsuccessful in getting subscriptions in other parts of the Province, and consequently there still remains the amount of \$250,000 to be provided for. Resolutions were passed at the meeting, requesting the directors to proceed at once to Halifax, and lay the facts of the matter before the Legislature with the view of obtaining sufficient Government aid to meet their necessities.

Miramichi Valley.

The line of this proposed road is from Fredericton, N. B., up the valley of the Nashwaak to Cross Creek, then following the latter to its source. It thence crosses a low divide to the Southwest Miramichi River and follows down that stream until it strikes the Intercolonial at Newcastle, 112½ miles from Fredericton. It passes through a country as yet unsettled, but containing much valuable timber. Its construction depends entirely upon the amount of subsidy which the local Government will grant.

Carolina Central.

It is proposed to build a branch from Lincolnton, N. C., north by west to Hickory, about 23 miles. The company will furnish the iron and operate the branch, if the people along the line will grade and tie it. Hickory is on the Western North Carolina Railroad, 54 miles eastward from the Old Fort, the present Western terminus of that road.

Georgia.

This company has been using coal experimentally on some of its engines and will probably adopt it altogether. The present cost is about the same as wood, but other considerations are in its favor, and the supply of wood on the line of the road is gradually diminishing. The coal used is bituminous from the Dade County mines.

New Bedford & Middleboro.

A meeting was held in New Bedford, Mass., March 9, to consider the question of building this road. The matter was referred to a committee, which is to confer with representatives of the towns interested. The road proposed is from New Bedford north to the Old Colony at Middleboro.

Indianapolis & St. Louis.

The old round-house in Indianapolis is to be torn down and a site has been selected for a new one. Repair shops of moderate size are also to be built.

New Jersey West Line.

The Riparian Commissioners of New Jersey have begun suit to forfeit to the State the lands under water in Jersey City granted to this company for a terminus several years ago. The purchase money for the grant was \$100,000 and the company has not only failed to pay the principal, but has not even paid the interest.

The affairs of the company still remain in the same condition and the dead lock between the opposing interests of the principal bondholders still continues. It was thought that the death of Mr. Beekman, one of the parties, some months ago, might make some difference, but his executors are not, apparently, any more disposed to a compromise than he was. Meantime the grading, bridges and trestles on the unfinished section from Summit to Lyons Farms are going to ruin and would even now require a considerable expenditure to put them in good order.

Elkton & Delaware Junction.

It is now proposed to build this road, a charter for which was obtained some years ago. The line is from the Philadelphia, Wilmington & Baltimore at Elkton, Md., east by south to the most convenient point on the Delaware Railroad. It will be about nine miles and will be a convenient cut-off for business from the Delaware road which is bound to Baltimore.

Train Accidents in February.

Early on the morning of the 1st a freight train on the New York Division of the Pennsylvania Railroad broke in two near Linden, N. J., and the rear cars subsequently ran into the forward ones, wrecking three cars badly and blocking the track three hours.

On the morning of the 1st some cars of a mixed train on the Rutland Railroad were thrown from the track by a broken rail at North Clarendon, Vt., and a passenger car upset and was badly broken, injuring one person severely and a number slightly.

On the morning of the 1st a truck of a sleeping car on the Vermont Central road jumped the track near South Royalton, Vt., and the train ran some distance before it could be stopped. The car was much damaged and the train delayed.

On the first a freight train on the Grand Trunk road ran off the track at Cumberland, Me., wrecking four cars.

On the evening of the 1st a car in a freight train on the New York, New Haven & Hartford road was thrown from the track at Westport, Conn., by a brake-beam which had dropped upon the rails.

Late on the night of the 1st the engine of a north-bound passenger train on the Mobile & Ohio road exploded its boiler near Winchester, Miss., scalding the engineman and fireman. The boiler appears to have given way about the junction of the barrel and fire-box.

Early on the morning of the 2d the pay car on the Peninsula Division of the Chicago & Northwestern jumped the track near Ishpeming, Mich. The coupling broke and the car upset and rolled down a bank about 15 feet high. Paymaster Reynolds and Roadmaster Perrin, who was with him, were caught under the heavy pay-safe and crushed to death; the conductor and a brakeman were hurt.

Early on the morning of the 2d the platform of the station at Kearneysville, W. Va., on the Baltimore & Ohio road, was torn up by the wind and thrown across the track. A few minutes afterwards a freight train ran into it, throwing the engine and several cars from the track and blocking the road four hours.

On the morning of the 2d a freight train on the St. Louis Division of the Toledo, Wabash & Western road ran off the track, blocking the road eight hours.

On the morning of the 2d, on the Ebensburg & Cresson Branch of the Pennsylvania Railroad, near Cresson, Pa., there was a butting collision between a passenger and a construction train by which both engines were badly wrecked, several cars damaged, the engineman of the construction train killed, the engineman of the passenger and both firemen badly hurt. The passenger train was behind time and the construction train started out, taking it for granted that it had passed.

On the morning of the 2d a train on the Montclair & Greenwood Lake road was thrown from the track at Montclair Heights, N. J., by a misplaced switch, blocking the road two hours.

Near noon on the 2d a construction train on the Marietta & Cincinnati road was backed into a siding at Cumminsville, O., at so high a speed that it started five loaded freight cars which were standing there and ran them off the end of the siding and down a high bank, where they were completely wrecked.

On the 2d a freight train on the Grand Trunk road ran off the track at New Gloucester, Me., and five cars were badly wrecked.

On the afternoon of the 2d an engine and snow-plow on the New York & Oswego Midland road was approaching the

bridge over the Willawmoo River, near Walton, N. Y., the plow jumped the track and ran over the ties upon the bridge, striking the truss and breaking it so that it gave way and the engine and plow fell through into the river 28 feet below, both being badly wrecked. On the engine were Superintendent Flint, Roadmaster Babcock, the engineman and fireman; in the plow Master Mechanic Minshall, the conductor and three brakemen. Superintendent Flint was fatally injured, dying a few days after; all the rest were more or less hurt, except one brakeman. The bridge was a Howe truss of 100 feet span. The derailment of the plow is believed to have been caused by snow packed upon the rails.

On the morning of the 3d a freight train on the Western & Atlantic road ran into the rear of a preceding freight which was stalled on a grade near Vining's, Ga., wrecking the caboose and damaging the engine. The stalled train sent back a man with a flag, but he did not go far enough.

On the afternoon of the 3d the passenger car of a mixed train on the Lake Superior & Mississippi road was thrown from the track by a broken rail near Hinkley, Minn. The car was dragged a quarter of a mile over the ties before the train was stopped, but it is said to have been kept from going down a high bank by a contrivance known as Root's patent safety car-runner, which was attached to it.

On the night of the 3d a passenger train on the Winona & St. Peter road struck a broken rail near Eyota, Minn., and two cars were thrown from the track, injuring seven of the passengers.

On the night of the 3d a construction train on the Rhinebeck & Connecticut road ran off the track near Rhinebeck, N. Y., and the engine upset, fatally injuring the fireman.

Late on the night of the 3d a freight train on the Erie Railway ran off the track at Penhorn, N. J., the engine going into a deep ditch and four cars being piled up upon it and badly wrecked.

On the morning of the 4th a west-bound passenger train on the Southern Minnesota road struck a broken rail near Rushford, Minn., and all the train, except the rear car, left the track and went into the ditch, breaking the cars badly and injuring three trainmen and ten passengers.

On the afternoon of the 4th there was a butting collision between two passenger trains at Glendale, O., on the Cincinnati, Hamilton & Dayton road, by which the engineman of one train was killed and several passengers slightly hurt. Both engines and several cars were damaged.

On the afternoon of the 4th the engine and two cars of a passenger train on the Concord & Portsmouth road were thrown from the track by a broken rail at Candia, N. H.

On the morning of the 5th as a freight train on the Toledo, Peoria & Warsaw road was crossing a bridge over Crooked Creek, near La Harpe, Ill., a car jumped the track, damaging itself and breaking some of the bridge timbers.

On the morning of the 6th as a car on the Toledo, Peoria & Warsaw road was being run on a siding near Keokuk, Ia., the brakes failed to hold it and it went off the end of the siding.

On the 6th ten cars of a freight train on the Baltimore & Ohio road were thrown from the track near Sandy Hook, Md. The wreck was spread over both tracks, blocking them six hours.

On the evening of the 6th the rear car of a freight train on the Baltimore & Ohio road ran off the track and, after running some distance over the ties, lodged on a bridge near Ilchester, Md.

A few minutes later a following freight ran into the lodged car, wrecking it and damaging the engine. The fireman jumped and was badly hurt.

Near noon on the 7th a passenger train on the New York Division of the Pennsylvania Railroad ran off the track in Elizabeth, N. J., and two cars were upset. The engineman was somewhat hurt. The accident was caused by some section-men, who had taken out a rail for repairs and, apparently, had not put out a signal.

On the evening of the 7th a passenger train on the Indianapolis & St. Louis road struck a tie which had been fastened across the track near Venice, Ill., and the engine and three cars left the track. The engine went down into the ditch, upset and was badly broken, injuring the engineman fatally and the fireman seriously.

Early on the morning of the 8th a freight train on the Nashville, Chattanooga & St. Louis road struck a broken rail on a trestle near Huntingdon, Tenn., throwing eight cars from the track and knocking down three bents of the trestle.

On the morning of the 8th a north-bound passenger train on the Burlington, Cedar Rapids & Minnesota road was thrown from the track by a broken rail near Morning Sun, Ia.

On the evening of the 8th the engine of a passenger train on the Providence & Worcester road broke a connecting rod near Woonsocket, R. I., delaying the train some time.

Very early on the morning of the 9th five cars of a freight train on the New York, Providence & Boston road were thrown from the track at a street crossing in Providence, R. I., by a plank from the crossing which was loose and in some way was thrown up on the rail as the train was passing.

On the morning of the 9th the engine of a train on the Los Angeles Division of the Southern Pacific road was thrown from the track by a wash-out near Cocamonga, Cal.

On the 9th the caboose attached to a snow plow on the Central Pacific road was thrown from the track near Cedar, Nev., by a broken wheel, delaying the train a short time.

Very early on the morning of the 10th a freight train on the Erie Railway ran into the rear of a coal train which had stopped for an open draw-bridge near Rutherford Park, N. J., and the caboose and several coal cars were badly broken.

On the evening of the 10th a switch engine on the New York, New Haven & Hartford road ran into the rear of a freight train in the yard at New Haven, Conn., breaking several cars badly.

On the evening of the 10th the engine of a freight train on the Toledo, Peoria & Warsaw road was thrown from the track by a misplaced switch at Hamilton, Ill., blocking the road some time.

On the evening of the 10th, four cars of a freight train on the Burlington, Cedar Rapids & Minnesota road were thrown from the track near Burlington, Ia., on a curve where the road-bed had been badly washed during a storm.

Late on the evening of the 10th, three cars of an extra freight train on the Chicago, Burlington & Quincy road were thrown from the track near Basco, Ill., delaying trains several hours. The cause is said to have been the softening of the road-bed by heavy rains.

On the night of the 10th, a passenger train on the Indianapolis & St. Louis road ran into some cars which had been blown from a siding upon the main track at Irwin, Ill., damaging the engine.

At very nearly the same time, a freight train on the same road ran into some cars which had been blown out of a siding at Kinder, Ill., by the same storm. The engine was somewhat damaged.

On the night of the 10th, a hurricane struck a freight train which was standing on a siding in the Cairo & St. Louis yard at East St. Louis, Ill., and threw eight cars from the track, one of them going down a bank.

On the 11th, a south-bound freight train on the Cairo & St. Louis road went through a trestle near Baldwin, Ill., and several cars were wrecked, injuring a brakeman.

On the evening of the 11th, several cars of a freight train on the Pennsylvania Railroad ran off the track near Kittanning Point, Pa., and one was badly wrecked. The cause of the accident is supposed to have been the bursting of a wheel upon which the brake had been turned too long.

On the morning of the 13th an engine and one stock car of a train on the Toledo, Wabash & Western road were thrown from the track in Danville, Ill., by a misplaced switch. Both of them went down a high bank and were badly broken, killing several mules.

On the 18th a west-bound express on the Pennsylvania Railroad ran into a land-slide near Johnstown, Pa., throwing the train from the track and wrecking the engine, baggage and two passenger cars. The wreck caught fire and the three cars were destroyed. The baggage man and a passenger were hurt.

On the morning of the 15th, as a train on the Rensselaer & Saratoga Railroad was near Rutland, Vt., one of the parallel rods broke near the forward driver, and the loose end swinging around, smashed one side of the cab and killed the fireman. A hole was also torn in the boiler.

On the 15th, as a train on the Utah Northern road was butting its way through a snow-bank near Deweyville, Utah, the pilot broke and was doubled in under the engine, throwing it from the track and injuring the fireman.

On the evening of the 15th two cars of a freight train on the Burlington, Cedar Rapids & Minnesota road ran off the track near Columbus Junction, Ia., blocking the track several hours.

On the 16th a train on the New Brunswick Railway was thrown from the track by snow near Woodstock, N. B.

On the 16th a train on the Pictou Branch of the Intercolonial Railway was thrown from the track by a broken wheel near Stellarton, N. S.

On the 16th a passenger train on the Central Railroad of Iowa ran off the track near Mason City, Ia., and a passenger car was broken in two, injuring two persons fatally and three others badly.

On the afternoon of the 16th as a passenger train on the Erie Railway was near Ross's Switch, Pa., one crosshead of the engine (an inside connected one) broke, leaving the end of the main rod loose. This end was driven through both shells of the fire-box and the steam and hot water were blown out through the fire-door, scalding the engineman so that he died two days afterwards, and the fireman badly.

On the evening of the 16th the engine of a passenger train on the Central Railroad of New Jersey ran off the track at Claremont, N. J., delaying trains two hours.

On the evening of the 16th a passenger train on the Toledo, Wabash & Western road ran over a misplaced switch and into the rear of another passenger at Clayton, Ill., damaging the engine and two cars.

Early on the morning of the 17th a freight train on the Seaboard & Roanoke road ran into two cars which had broken loose from a preceding train near Margarettsville, N. C., damaging itself and wrecking the cars. Two train men were hurt.

On the morning of the 17th a Green Bay & Minnesota passenger train was thrown from the track by a broken rail on the Chicago & Northwestern track at Marshland, Wis. The whole train left the track and two passengers were injured.

On the morning of the 17th the engine and three cars of a passenger train on the Erie Railway were thrown from the track by a misplaced switch at Cameron, N. Y.

On the evening of the 17th two cars of a mixed train on the Harlem Extension road were thrown from the track at South Wallingford, Vt., blocking the road four hours. The accident was caused by the spreading of the rails.

Early on the morning of the 18th the milk and mail cars of a train on the Harlem Extension road were thrown from the track by a broken rail near Wallingford, Vt., and went down a low bank. The mail agent was somewhat hurt.

Late on the night of the 18th four cars of a freight train on the Keokuk & Des Moines road ran off the track near Leighton, Ia.

On the 18th a freight train on the Cincinnati, Sandusky & Cleveland road ran off the track near Bellefontaine, O., and five cars were wrecked.

On the morning of the 19th a Keokuk & Des Moines switching engine ran off the track in Keokuk, Ia.

Near noon on the 19th a car in a passenger train on the Houston & Texas Central road was thrown from the track near Mineral Creek, Tex., by the breaking of an axle.

On the night of the 19th a passenger train on the Toledo, Peoria & Warsaw road was thrown from the track by a misplaced switch at La Harpe, Ill., and the engine was upset in the ditch, injuring the fireman.

On the night of the 19th a freight train on the Pennsylvania Railroad broke in two on the grade between Summerhill and Wilmore, Pa., and the rear section subsequently ran into the forward one, wrecking one car and damaging several others.

Late on the night of the 19th a freight train on the Louisville, Cincinnati & Lexington road was thrown from the track near La Grange, Ky., by the breaking of an axle under the engine. The engine and several cars were thrown down a bank and badly broken, and the engineman was caught under the engine in such a way that he could not be extricated and was held fast while two streams of water from the boiler poured over him and scalded him to death.

On the morning of the 20th as a freight train on the Norwich & Worcester road was passing through Norwich, Conn., seven cars ran off the track, two of them being completely wrecked.

On the night of the 21st as a stock train on the Boston, Concord & Montreal road was near West Rumney, N. H., an ox in some manner got out of a car and fell upon the track. Three cars were thrown from the track and wrecked and the track torn up for some distance, blocking the road all night.

On the 22d an Indianapolis, Bloomington & Western freight ran off the track on the Union track in Indianapolis, Ind., blocking it three hours.

On the 22d a car of an east-bound passenger train on the New Jersey Midland road ran off the track at Oakland, N. J., delaying the train some time.

Very early on the morning of the 23d a sleeping coach in a train on the Memphis Line of the Louisville & Nashville road caught fire near Galloway, Tenn., and was entirely destroyed. The fire spread so rapidly as to make it difficult for the passengers to escape.

Early on the morning of the 23d, a freight train on the Chicago, Burlington & Quincy road, broke in two near Kirkville, Ill., and the rear part subsequently ran into the forward one, wrecking two cars, damaging the engine and killing a brakeman.

On the morning of the 23d, a train on the Rome, Watertown & Ogdensburg road was thrown from the track at Watertown, N. Y., by the breaking of a switch-lever, which allowed the switch to turn. Two cars were thrown against an engine standing on the siding, and badly broken.

On the morning of the 23d, a special train on the Grand Trunk Railway struck a broken switch-rail at the Tanneries Junction in Montreal, P. Q., and the engine and baggage car left the track, the car being upset and badly broken. Two trainmen were slightly hurt.

On the morning of the 23d, as an east-bound passenger train on the Erie Railway was passing Penhorn, N. J., an oil car, which had not been run far enough upon a siding, struck a passenger car upon the forward corner, and did much damage, breaking the windows and tearing the sides of several cars.

On the afternoon of the 23d, a snow-plow on a train of the Grand Rapids & Indiana road ran off the track in a drift near Manosoma, Mich., and was thrown directly across the track, blocking it a whole day.

Late on the night of the 23d an express train on the Harlem Extension road struck a broken rail near South Wallingford, Vt., and the passenger and sleeping cars left the track. The sleeping car broke loose from the train and rolled over down a

bank 15 feet high into a marble yard. It was badly broken, and the wreck caught fire from the stove and was entirely destroyed. Two passengers were burned up in the wreck and 10 persons were more or less hurt.

On the morning of the 24th an express train on the Chesapeake & Ohio Railway was thrown from the track in Bellows Falls, Vt., by a misplaced switch.

On the 24th, two cars of a passenger train on the Cairo & St. Louis road were thrown from the track by a defective frog near East St. Louis, Ill., blocking the road three hours.

On the night of the 24th, a freight train on the Keokuk & Des Moines road was obliged to leave some cars standing at the foot of the grade at Summit, Ia., the engine being unable to take the whole train. When part way up the grade the train broke in two and several cars ran back down the grade and into the cars left standing on the track, wrecking two of them and blocking the road 10 hours.

On the morning of the 25th, as a special freight train loaded with lumber and ice was entering a cut about two miles north of Morley, Mich., on the Grand Rapids & Indiana road, a broken rail threw the caboose and two ice cars from the track. The wreck being in a cut made it difficult to remove and trains were delayed eight hours.

On the 25th, a car of a freight train on the St. Louis, Keokuk & Northwestern road ran off the track in Keokuk, Ia.

On the morning of the 27th the forward truck of a sleeping car on a train on the Central Ohio Division of the Baltimore & Ohio Railroad jumped the track at a switch near Belmont, O. The truck wheels landed on the rails of the siding, the coupling broke and the train ran on, leaving the sleeper with one truck on the main track and one on the siding.

On the 27th a train on the New London Northern Railroad ran over a cow near Norwich, Conn., throwing the engine from the track.

On the afternoon of the 27th a north-bound passenger train on the Missouri, Kansas & Texas road struck a tree which had fallen across the track near Evansville, Mo. The engine was thrown from the track, upset and badly broken; the baggage and express cars were torn from the trucks and piled up on the tender.

On the morning of the 28th a car in a west bound freight train on the Troy & Greenfield road ran off the track near Hawkes' Bridge, Mass. The car was dragged along over the ties until it reached the bridge, when it struck one end of the truss, throwing the bridge and five cars down into the Deerfield River.

On the morning of the 28th the engine of a train on the Grand Rapids & Indiana road was thrown from the track by the breaking of some of its machinery, near Ashton, Mich.

On the 28th five cars of a construction train on the New York, New Haven & Hartford road were thrown from the track in the yard at New Haven, Conn., by a switch which was jarred from its place, the fastening of the switch lever being broken.

On the morning of the 29th a train on the New York Division of the Pennsylvania Railroad was thrown from the track by a misplaced switch at the new shops near East Newark, N. J., and two cars were upset and badly broken, injuring five men.

This is a total of 91 accidents, whereby 15 persons were killed and 68 wounded. Twelve accidents caused the death of one or more persons, 14 caused injury but not death, while 65, or five-sevenths of the whole, caused no injury serious enough for record.

These accidents may be classified according to their nature and causes as follows:

COLLISIONS:			
Rear collisions	.....	12	
Butting collisions	.....	3	
DERAILMENTS:			
Unexplained	.....	25	
Broken rail	.....	12	
Misplaced switch	.....	9	
Accidental obstruction	.....	5	
Snow	.....	4	
Broken wheel	.....	3	
Broken axle	.....	2	
Wash-out	.....	2	
Spreading of rails	.....	2	
Rail out for repairs	.....	1	
Malicious obstruction	.....	1	
Wind	.....	1	
Broken bridge	.....	1	
Land-slide	.....	1	
Defective frog	.....	1	
Cattle on track	.....	1	
Broken connecting rod	.....	1	
Broken crosshead	.....	1	
Boiler explosion	.....	1	
Car burned while running	.....	1	
Total	.....	91	

Five collisions were caused by trains breaking in two; two each by failure to use signals properly and by cars blown out of sidings; one each by absence of orders and by a misplaced switch. In two cases where derailment was caused by misplaced switches the switch lever was broken, allowing the switch to be jarred from its place. Thirty-one accidents were caused directly by defect or failure of road or equipment. The bridge which gave way was a common trestle bridge; besides that there were two accidents in which a bridge was broken or thrown down by a car off the track. As compared with February, 1875, there is a decrease of 120 in the number of accidents; an increase of 4 in the number killed, and a decrease of 118 in that injured.

The weather of the month was not, as a whole, severe, though there were several bad storms and some local trouble from snow. It differed widely from February of last year with its continuance of stormy and extremely severe weather, and the difference is shown in a marked manner by the smaller number of accidents. The number of collisions for the month was smaller than usual. Broken rails appear in considerable numbers and misplaced switches are still unpleasantly numerous. The number of killed and injured is small in comparison to that of accidents.

For the year ending with February the record is as follows:

	No. of accidents.	Killed.	Injured.
March	123	19	73
April	60	7	27
May	54	6	23
June	61	28	27
July	73	33	30
August	114	27	119
September	116	50	129
October	88	12	74
November	87	24	97
December	84	12	68
January	69	8	39
February	91	15	66
Totals	1,010	236	953

The averages per day were for the month 3.14 accidents, 0.52 killed and 2.34 injured; for the year 2.76 accidents, 0.44 killed and 2.52 injured.